



液晶显示器

底板 LS19MBP

型号 971P

维修

手 册

液晶显示器



时尚特点

- 非对称平衡简易液晶显示器
- 折叠式三合页底座
- 响应时间短
- 优化键
- USB2.0

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LS19MBP 维修手册

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商标

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中国印刷

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URL: <http://itself.sec.samsung.co.kr/>

1 Precautions

Follow these safety, servicing and ESD precautions to prevent damage and to protect against potential hazards such as electrical shock.

1-1 Safety Precautions

1-1-1 Warnings

1. For continued safety, do not attempt to modify the circuit board.
2. Disconnect the AC power and DC power jack before servicing.

1-1-2 Servicing the LCD Monitor

1. When servicing the LCD Monitor, Disconnect the AC line cord from the AC outlet.
2. It is essential that service technicians have an accurate voltage meter available at all times. Check the calibration of this meter periodically.

1-1-3 Fire and Shock Hazard

Before returning the monitor to the user, perform the following safety checks:

1. Inspect each lead dress to make certain that the leads are not pinched or that hardware is not lodged between the chassis and other metal parts in the monitor.
2. Inspect all protective devices such as nonmetallic control knobs, insulating materials, cabinet backs, adjustment and compartment covers or shields, isolation resistor-capacitor networks, mechanical insulators, etc.
3. Leakage Current Hot Check (Figure 1-1):

WARNING : Do not use an isolation transformer during this test.

Use a leakage current tester or a metering system that complies with American National Standards Institute (*ANSI C101.1, Leakage Current for Appliances*), and Underwriters Laboratories (*UL Publication UL1410, 59.7*).

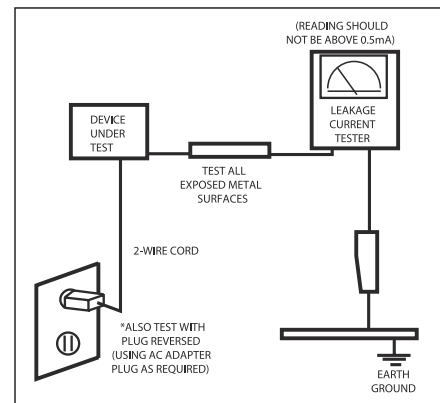


Figure 1-1. Leakage Current Test Circuit

4. With the unit completely reassembled, plug the AC line cord directly into a 120V AC outlet. With the unit's AC switch first in the ON position and then OFF, measure the current between a known earth ground (metal water pipe, conduit, etc.) and all exposed metal parts, including: metal cabinets, screwheads and control shafts. The current measured should not exceed 0.5 milliamp. Reverse the power-plug prongs in the AC outlet and repeat the test.

1-1-4 Product Safety Notices

Some electrical and mechanical parts have special safety-related characteristics which are often not evident from visual inspection. The protection they give may not be obtained by replacing them with components rated for higher voltage, wattage, etc. Parts that have special safety characteristics are identified by \triangle on schematics and parts lists. A substitute replacement that does not have the same safety characteristics as the recommended replacement part might create shock, fire and/or other hazards. Product safety is under review continuously and new instructions are issued whenever appropriate.

1 Precautions

1-2 Servicing Precautions

- WARNING:** An electrolytic capacitor installed with the wrong polarity might explode.
- Caution:** Before servicing units covered by this service manual, read and follow the Safety Precautions section of this manual.
- Note:** If unforeseen circumstances create conflict between the following servicing precautions and any of the safety precautions, always follow the safety precautions.

1-2-1 General Servicing Precautions

1. Always unplug the unit's AC power cord from the AC power source and disconnect the DC Power Jack before attempting to:
(a) remove or reinstall any component or assembly, (b) disconnect PCB plugs or connectors, (c) connect a test component in parallel with an electrolytic capacitor.
2. Some components are raised above the printed circuit board for safety. An insulation tube or tape is sometimes used. The internal wiring is sometimes clamped to prevent contact with thermally hot components. Reinstall all such elements to their original position.
3. After servicing, always check that the screws, components and wiring have been correctly reinstalled. Make sure that the area around the serviced part has not been damaged.
4. Check the insulation between the blades of the AC plug and accessible conductive parts (examples: metal panels, input terminals and earphone jacks).
5. Insulation Checking Procedure: Disconnect the power cord from the AC source and turn the power switch ON. Connect an insulation resistance meter (500 V) to the blades of the AC plug.
The insulation resistance between each blade of the AC plug and accessible conductive parts (see above) should be greater than 1 megohm.
6. Always connect a test instrument's ground lead to the instrument chassis ground before connecting the positive lead; always remove the instrument's ground lead last.

1-3 Static Electricity Precautions

Some semiconductor (solid state) devices can be easily damaged by static electricity. Such components are commonly called Electrostatically Sensitive Devices (ESD). Examples of typical ESD are integrated circuits and some field-effect transistors. The following techniques will reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor components or assemblies, drain the electrostatic charge from your body by touching a known earth ground. Alternatively, wear a discharging wrist-strap device. To avoid a shock hazard, be sure to remove the wrist strap before applying power to the monitor.
2. After removing an ESD-equipped assembly, place it on a conductive surface such as aluminum foil to prevent accumulation of an electrostatic charge.
3. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ESDs.
4. Use only a grounded-tip soldering iron to solder or desolder ESDs.
5. Use only an anti-static solder removal device. Some solder removal devices not classified as "anti-static" can generate electrical charges sufficient to damage ESDs.
6. Do not remove a replacement ESD from its protective package until you are ready to install it. Most replacement ESDs are packaged with leads that are electrically shorted together by conductive foam, aluminum foil or other conductive materials.
7. Immediately before removing the protective material from the leads of a replacement ESD, touch the protective material to the chassis or circuit assembly into which the device will be installed.
Caution: Be sure no power is applied to the chassis or circuit and observe all other safety precautions.
8. Minimize body motions when handling unpackaged replacement ESDs. Motions such as brushing clothes together, or lifting your foot from a carpeted floor can generate enough static electricity to damage an ESD.

1-4 Installation Precautions

1. For safety reasons, more than two people are required for carrying the product.
2. Keep the power cord away from any heat emitting devices, as a melted covering may cause fire or electric shock.
3. Do not place the product in areas with poor ventilation such as a bookshelf or closet. The increased internal temperature may cause fire.
4. Bend the external antenna cable when connecting it to the product. This is a measure to protect it from being exposed to moisture. Otherwise, it may cause a fire or electric shock.
5. Make sure to turn the power off and unplug the power cord from the outlet before repositioning the product. Also check the antenna cable or the external connectors if they are fully unplugged. Damage to the cord may cause fire or electric shock.
6. Keep the antenna far away from any high-voltage cables and install it firmly. Contact with the high-voltage cable or the antenna falling over may cause fire or electric shock.
7. When installing the product, leave enough space (10cm) between the product and the wall for ventilation purposes. A rise in temperature within the product may cause fire.

1 Precautions

Memo

2 产品规格

2-1 时尚特点

- 采用定制键和 USB2.0,以方便用户
- 非对称平衡简易液晶显示器
- 可折叠式三合页底座
- 响应时间短
- 自动旋转

2-2 LS19MBP 规格

项目	说明
液晶显示屏	薄膜晶体管液晶显示屏、RGB竖条纹、正常黑色传输、19英寸可视，0.294（水平）X 0.294（竖直）mm像素点距
扫描频率	水平：30 kHz~81 kHz（自动） 竖直：56 Hz~75 Hz
显示颜色	16.7M 种颜色
最大分辨率	水平：1280 像素 竖直：1024 像素
输入视频信号	DVI-I(DVI-A D-sub/ DVI-D)
输入同步信号	单独分开，复合，绿色同步
最大像素时钟率	140 MHz
有效显示 水平/竖直	376.32（水平）mm/301.056（宽）mm
交流电源电压和频率	AC 90~264 伏，60/50 Hz
功耗	36W（最大）
尺寸 本机（宽×深×高）	423 x 228 x 433 mm（16.65 x 8.97 x 17.05英寸）
重量	6.0 Kg（本机）/8.0 Kg（包装）
环境因素	工作温度：32°F~122°F（0°C~50°C） 工作湿度：20%~95% 存放温度：-4°F~49°F（-20°C~65°C） 存放湿度：5%~95%
- 设计和规格可能有变动，恕不事先通知。	

2-3 规格比较

型号	LS19VDP	LS19MBP
设计		
屏幕尺寸	19"	19"
分辨率	1280x1024@60Hz	1280x1024@60Hz
颜色	16.2M	16.2M
亮度	250cd/m ²	250cd/m ²
对比度	1000:1	1500:1
支持分辨率	VGA ~ SXGA	VGA ~ SXGA
水平频率	30~81kHz	30~81kHz
竖直频率	56~75Hz	56~75Hz
同步类型	Sep./Comp./SOG	Sep./Comp./SOG
快速响应时间	25ms(W to B) / 8ms(G to G)	20ms(W to B) / 6ms(G to G)
信号输入	DVI-I (DVI-A to D-sub / DVI-D)	DVI-I (DVI-A to D-sub / DVI-D)
自动枢轴	180°	180°
Magic Tune	Version 3.6	Version 3.6
魔幻亮度	文本、互联网、体育运动、电影、 游戏、定制	文本、互联网、体育运动、电影、 游戏、定制
魔幻颜色	O	O
魔幻区域	O	X
清晰度	O	O
具体灰度系数和色温控制	O	O
USB2.0	X	O
功耗	40 瓦（最大）	36 瓦（最小）

2-4 选装件规格

物品	物品名称	代号	备注
	快速安装指南	BN68-00174P	
	保修卡 (在所有地点不提供)	BN68-00226H	
	显示器驱动程序, 自然色软件, MagicTune™ 软件 Magic Rotation 软件	BN59-00554A	
	DVI-A to D-sub 电缆	BN39-00310C	LS19MBP 专用电缆, 请检查编码号
	电源线	3903-000212	
	适配器	BN44-00071A	
	干净的布	BN63-02368A	
	DVI 电缆	BN39-00246D	LS19MBP 专用电缆, 请检查编码号

备忘录

3 调整和调节

维修手册本章说明如何使用 DDC 管理工具。

该功能为更换 AD 板和程序存储器（IC200）所需。

3-1 所需的设备

以下设备为调整显示器所需。

- 装有Windows 95、Windows 98、Windows NT、Windows 2000或Windows XP的计算机。
- MTI-2059 DDC管理工具

3-2 自动色彩调整

若要输入图像，使用 16 级灰度或任何使用黑色和白色的图形。

在开机过程中，按下电源按钮，“LED 闪烁”2 次。

3-3 DDC EDID数据输入

1. 在更换 AD 印刷电路板时，输入 DDC EDID 数据。
2. 由 HQ 质量控制部门接收/下载适于该机型 DDC 文件。
安装以下装置（图 1）并输入数据。

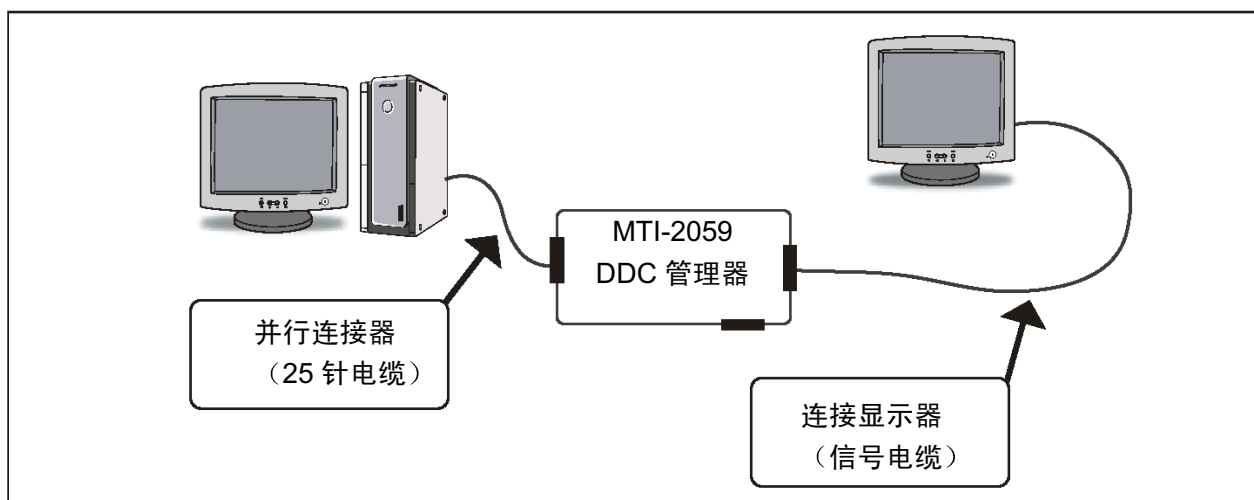


图 1

3-4 维修功能规格

3-4-1 如何显示维修功能 OSD

在关机期间，按下电源按钮，“LED 闪烁” 10 次以上。
然后开机，并按下电源按钮 15 秒。
正如图 2 所示，显示维修功能 OSD。

- 在 OSD 显示期间，如果持续按下电源键，向下移动所选菜单（底色变为蓝色）。
- 如果想找到所需菜单，请停止按下电源键，然后再按下一次电源键。
然后，可以改变所需菜单。

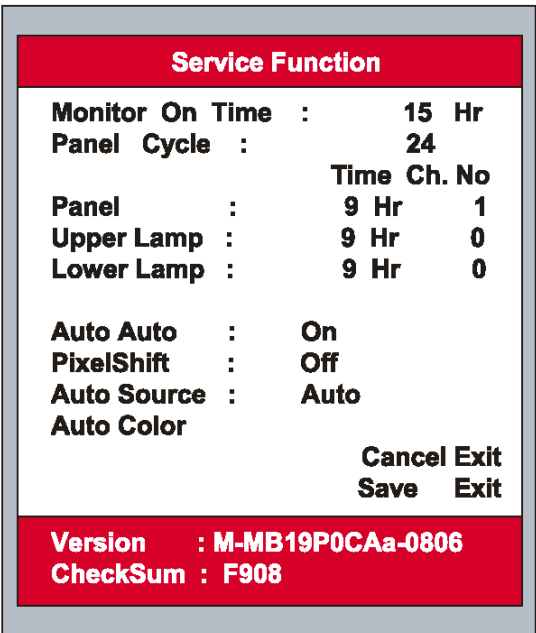
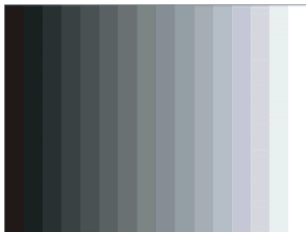
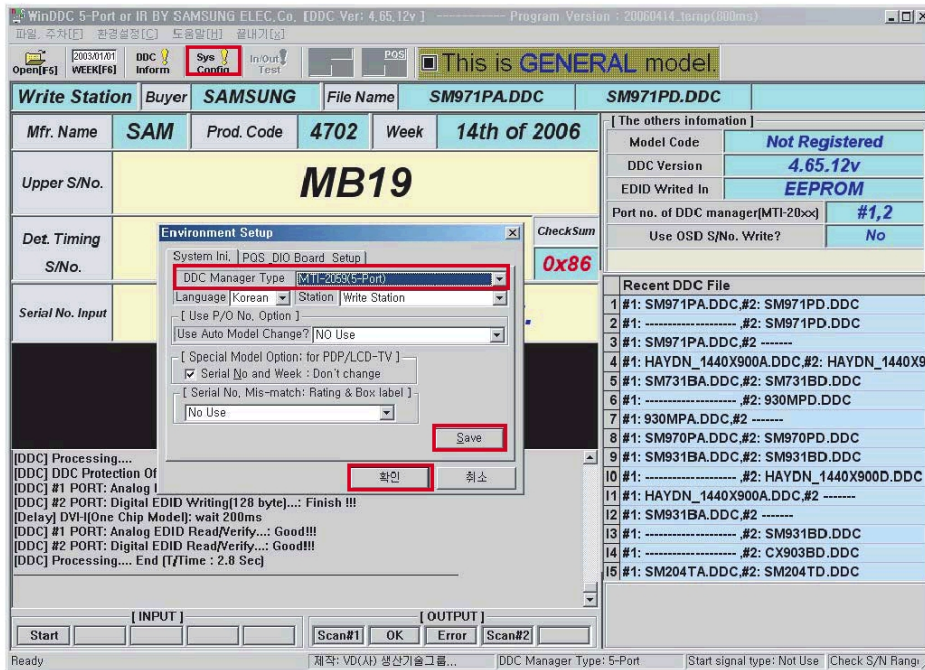


图 2. 维修功能 OSD 举例

3-5 隐藏按键列表

序号	功能	操作方法
1	自动调节键	在开机过程中，按下电源按钮，“LED 闪烁”2 次。
2	输入来源选择键	在开机过程中，按下电源按钮，“LED 闪烁”1 次。
3	用户删除	在关机过程中，按下电源按钮 5 秒，“LED 闪烁”一次。
4	隐藏维修功能 1 	1) 显示器开机时间：开机时间 2) 显示屏周期：显示屏开/关次数 （开机/关机、模式切换或 DPMS 开/关会使显示屏周期增加） 3) 显示屏：显示屏开启时间 （在更换显示屏后，将频道数一步并将时间置零。） 4) 上灯：上灯开启时间 （更换上灯后，将频道数增加一步，并将时间置零。） 5) 下灯：下灯开启时间 （更换下灯后，将频道数增加一步并将时间置零。）
5	隐藏维修功能 2 	6) 自动调节 7) 像素移动：本菜单只适用于有图像残留问题的显示屏， -显示屏的 8 个像素定期向上、向下、向左和向右移动 32 步。 此时，用户可以感觉到像素的移动。 -工厂默认设置关。 8) 自动来源：自动或手动。 9) 自动颜色：自动颜色校准。 使用 16 级灰度图。 （请参照左侧的 16 级灰度图） 10) 取消退出：不存储所有更改之处，并退出隐藏维修功能。 11) 存储退出：存储所有更改之处，并退出隐藏维修功能。 12) 版本：MCU 固件版本。 如果发现兼容性问题，请将该信息告知我们。 13) 检验和：MCU 固件检验和 如果发现兼容性问题，请将该信息告知我们。

3-6 用 Windows 程序安装 DEID



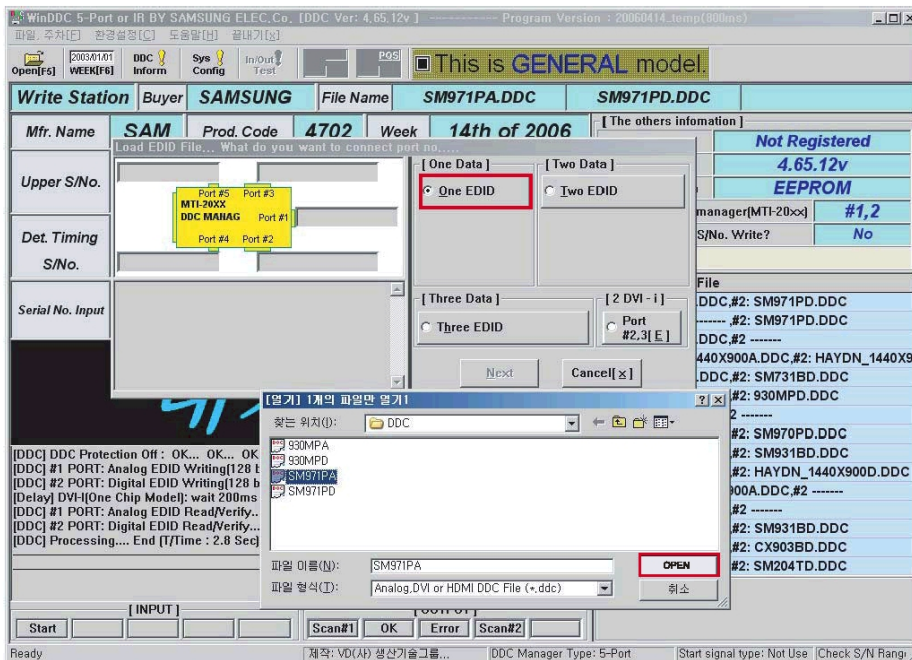
1. 点击“SysConfig”
2. 选择 DDC 管理器。
键入“MTI-2059（5 端口）”。
3. 点击“存储”按钮。
4. 点击“确定”按钮。

* MTI-2059

-模拟：端口#1

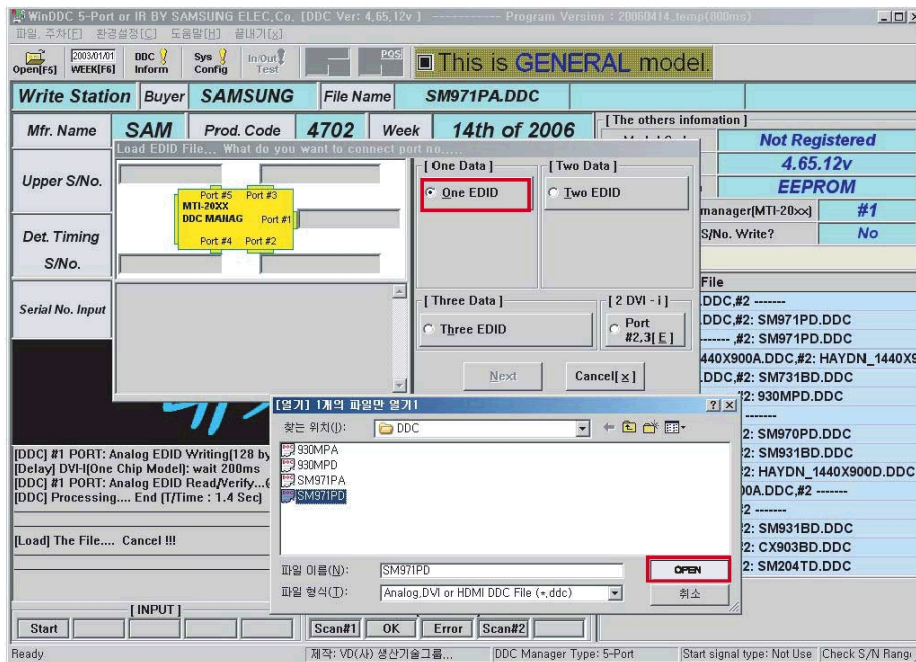
-数字：端口#2

-模拟（端口#1）

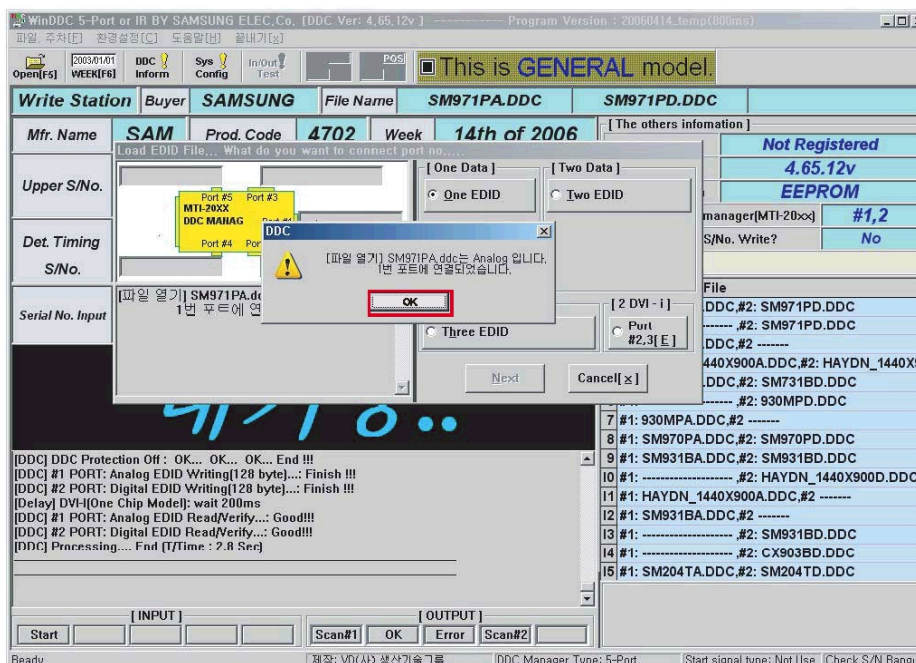


5. 选择“一个 EDID”。
6. 选择 DDC 文件。
文件名：
“SM971PA.ddc”
7. 点击“打开”按钮。

-数字（端口#2）

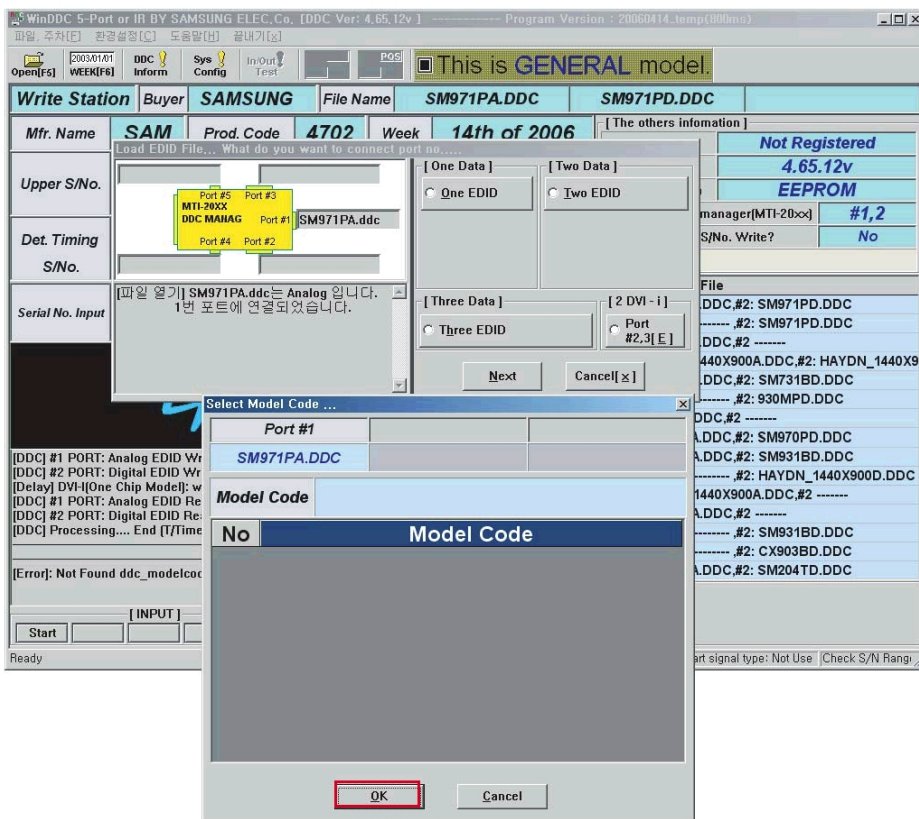


5. 选择“一个 EDID”。
6. 选择 DDC 文件。
文件名：
“SM971PD.ddc”
7. 点击“打开”按钮。

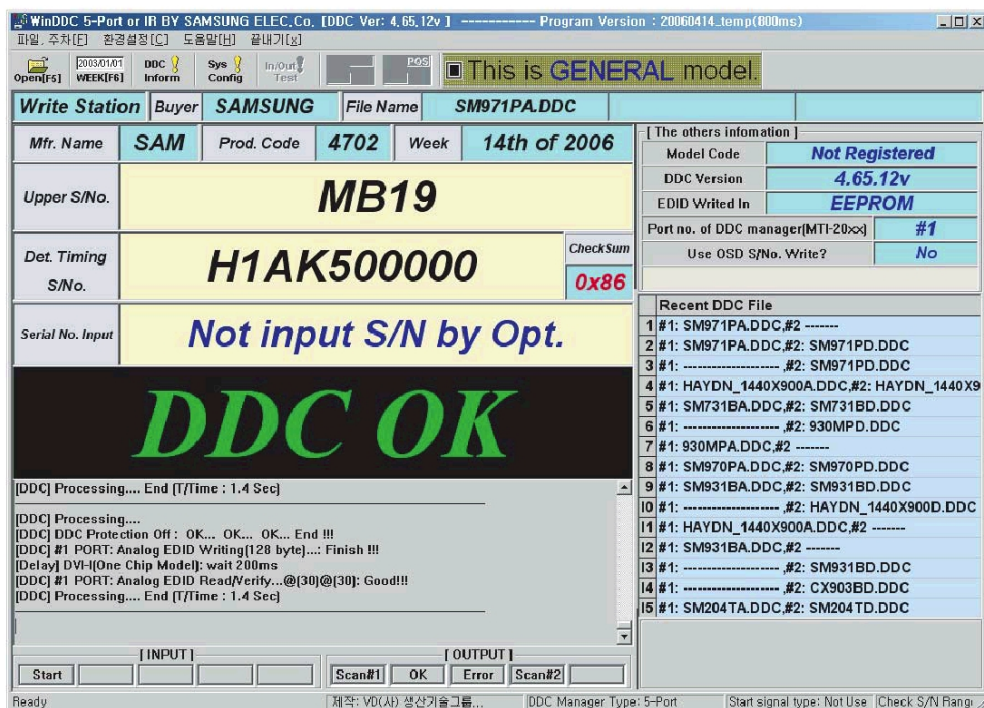


9. 点击“确定”按钮。

3 调整和调节



10. 点击“确定”按钮。

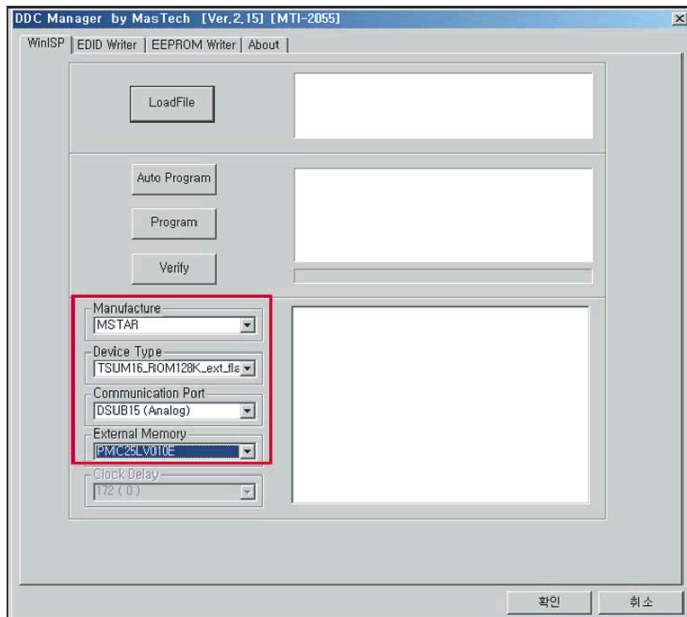


11. 键入显示器系列号并按下回车键。

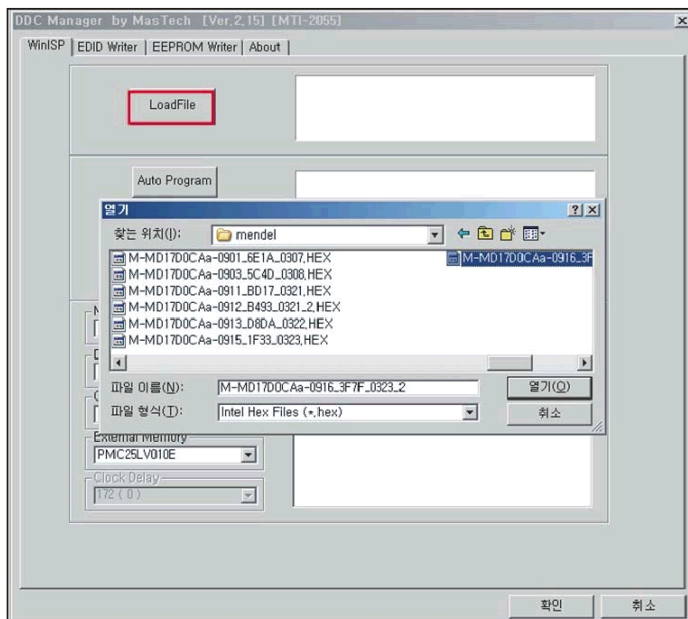
在模拟输入后，在数字输入中重复本步骤 2 至 5 次。

3-7 如何执行 MCU 代码

3-7-1 程序设置-配置调协

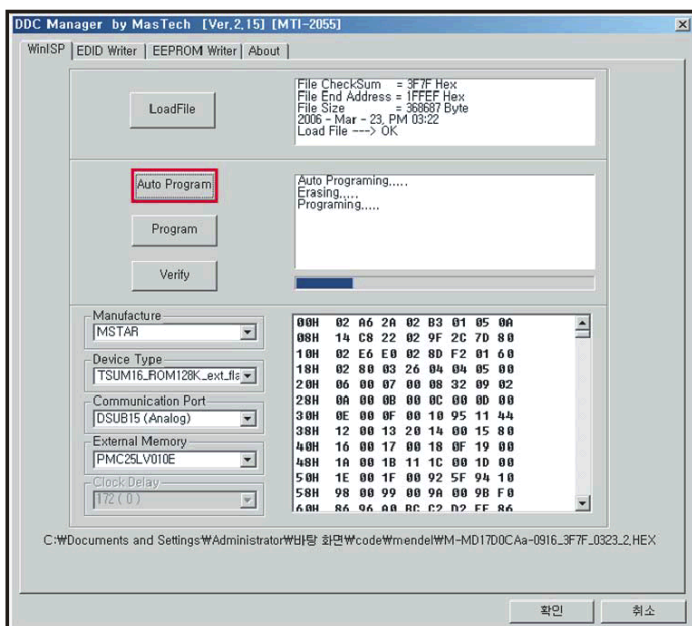


1. 设置选项。
 - 制造: MSTAR
 - 设备类型:
TSUM16_ROM128K_ext_flash
 - 通信端口: DSUB15 (模拟)
 - 外部存储器: PMC25LV010E

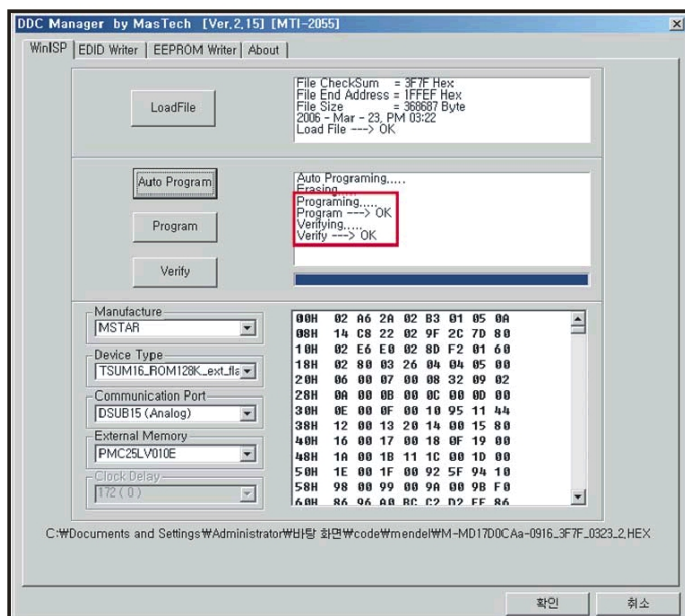


2. 点击“装载文件”按钮，并选择 MCU 代码。

3 调整和调节



3. 点击“自动程序”按钮。

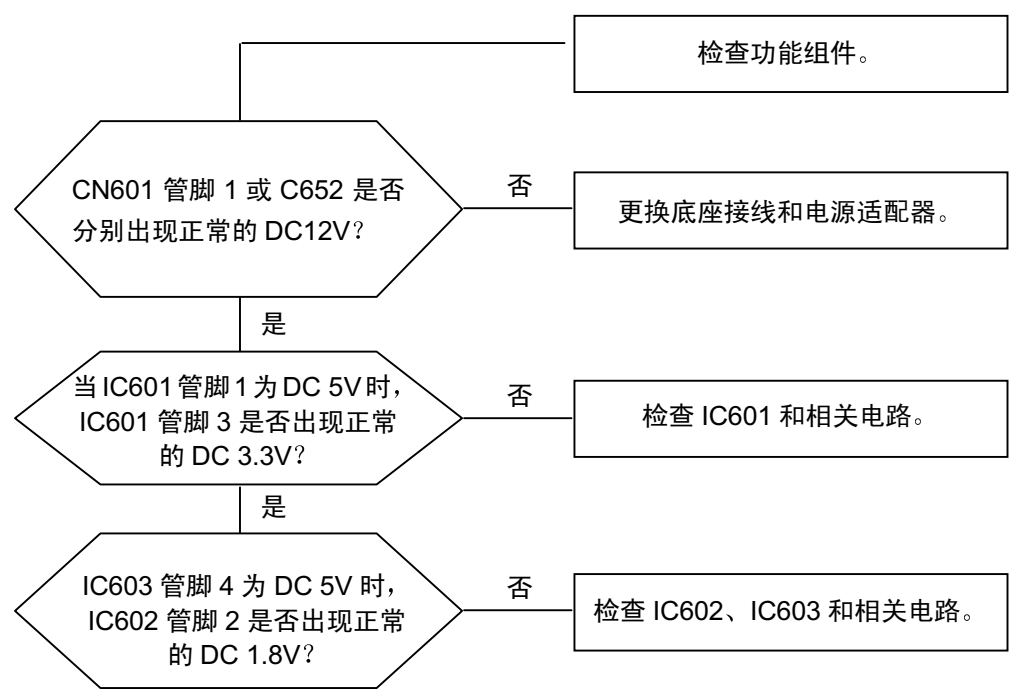


4. 如果编程并验证“确定”，关闭电源，然后再次打开。

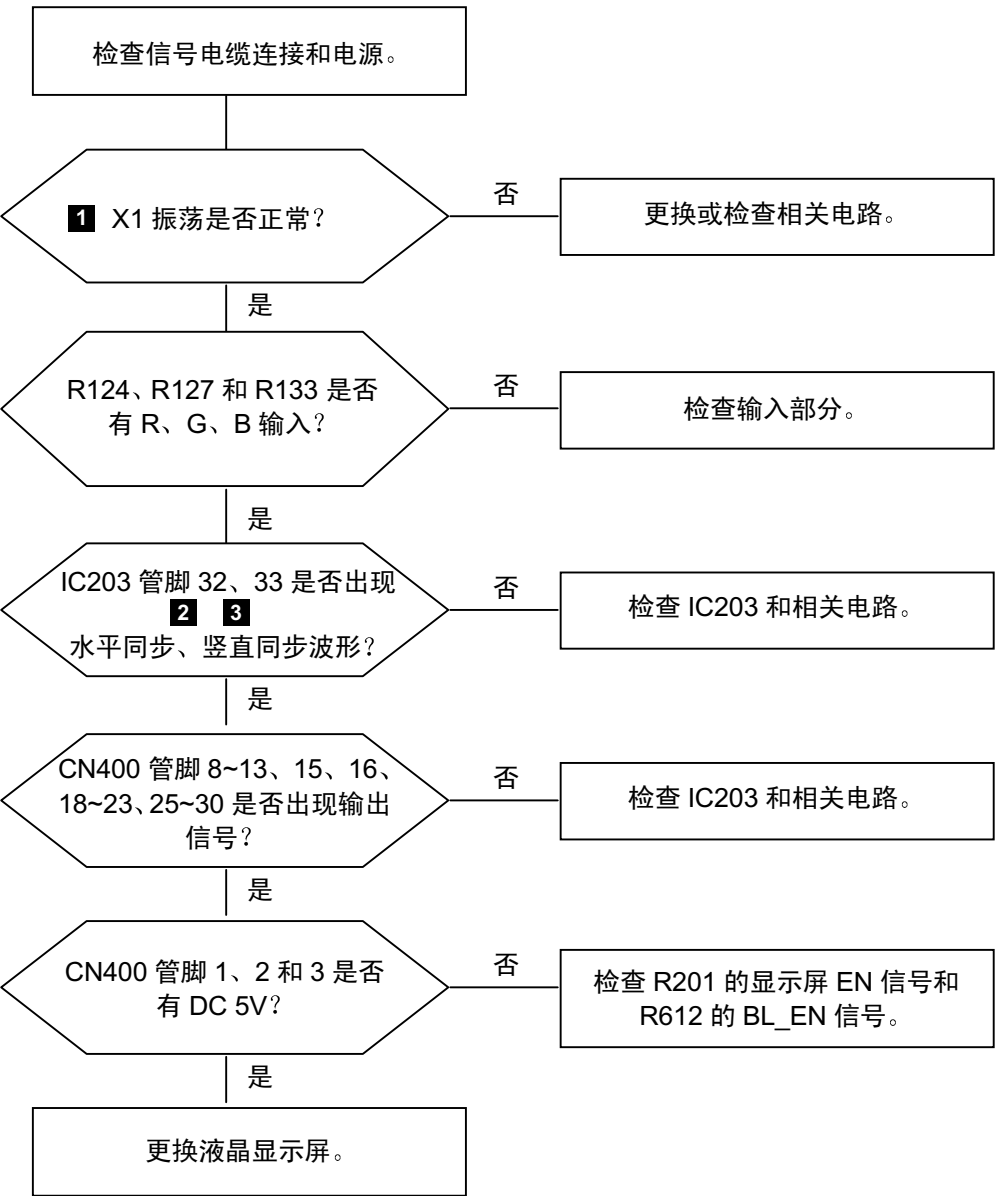
4 故障排除

- 注意：** 1. 在进行故障排除之前，按如下方式设置 PC 显示器：
- 分辨率：1280×1024
 - 水平频率：64 kHz
 - 垂直频率：60 Hz
2. 如果没有图像出现，确保正确连接了电源线。
3. 检查以下电路：
- 没有光栅出现：功能印刷电路板组件、主印刷电路板组件、变换器
 - 5V 形成，但没有画面：主印刷电路板组件
 - 12V、5V 没有形成：适配器、主印刷电路板组件
4. 在断电过程中，如果按住“电源键”按钮超过 5 秒，则显示器自动返回工厂预设值。

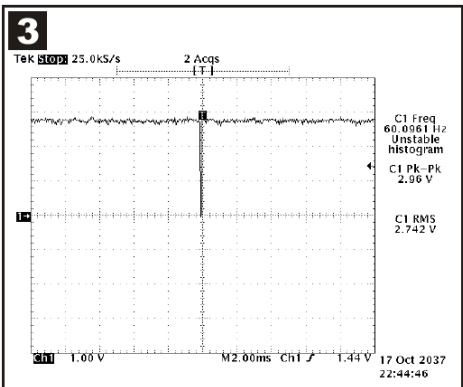
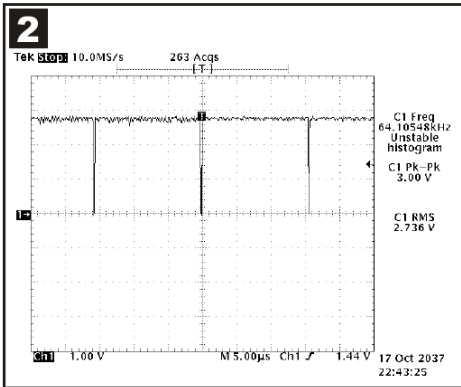
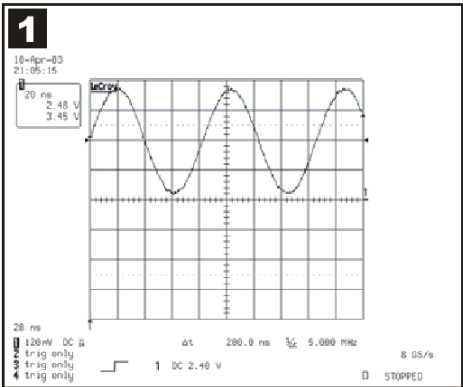
4-1 未通电



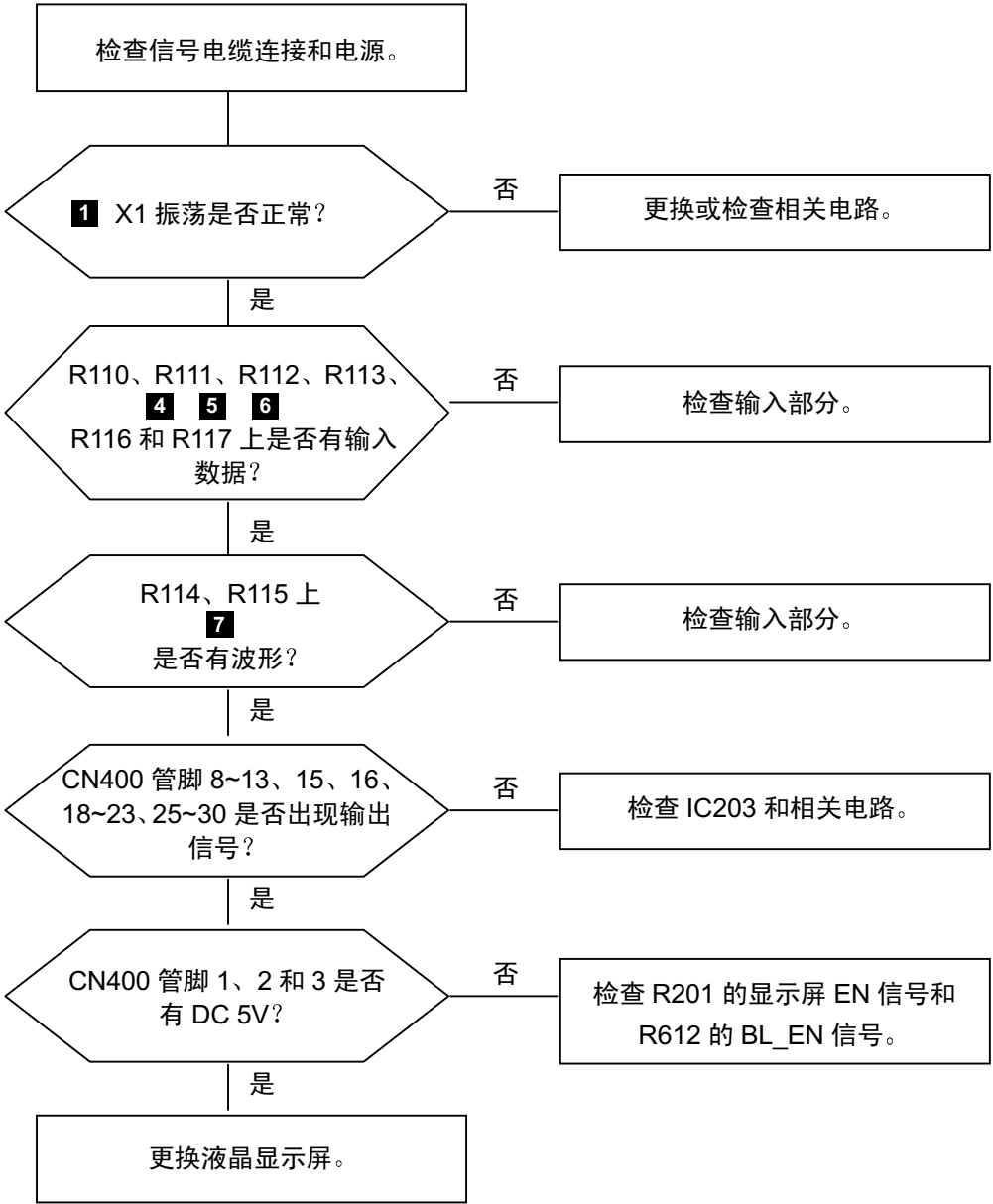
4-2 没有图像（模拟）



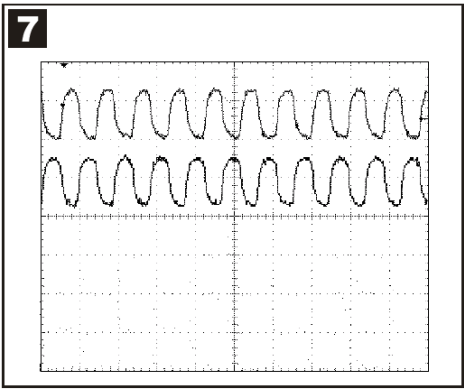
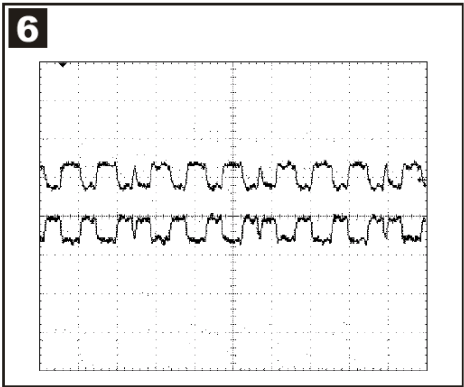
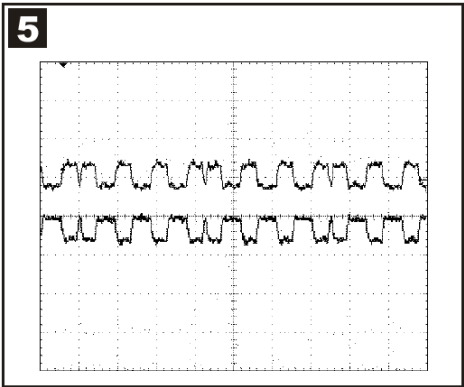
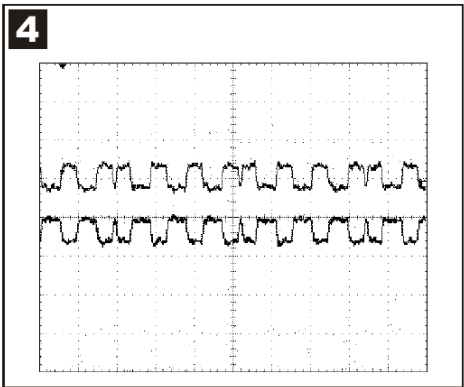
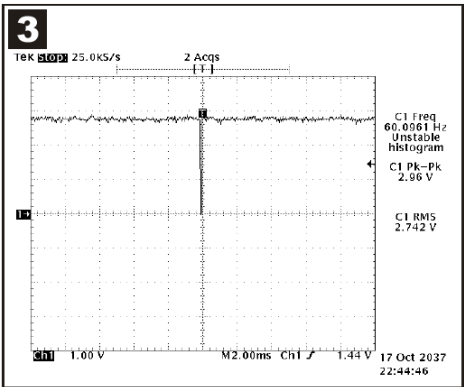
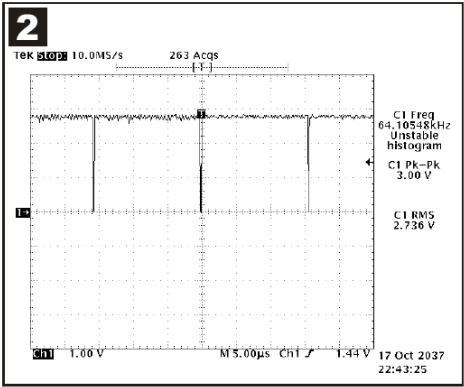
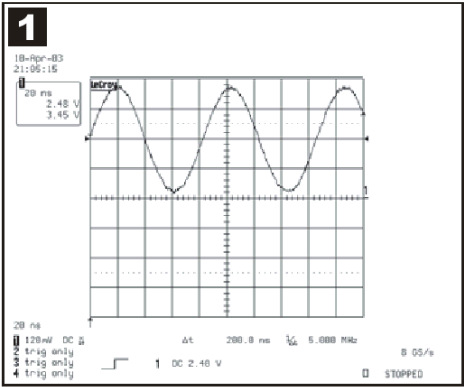
波形



4-3 没有图像（数字）



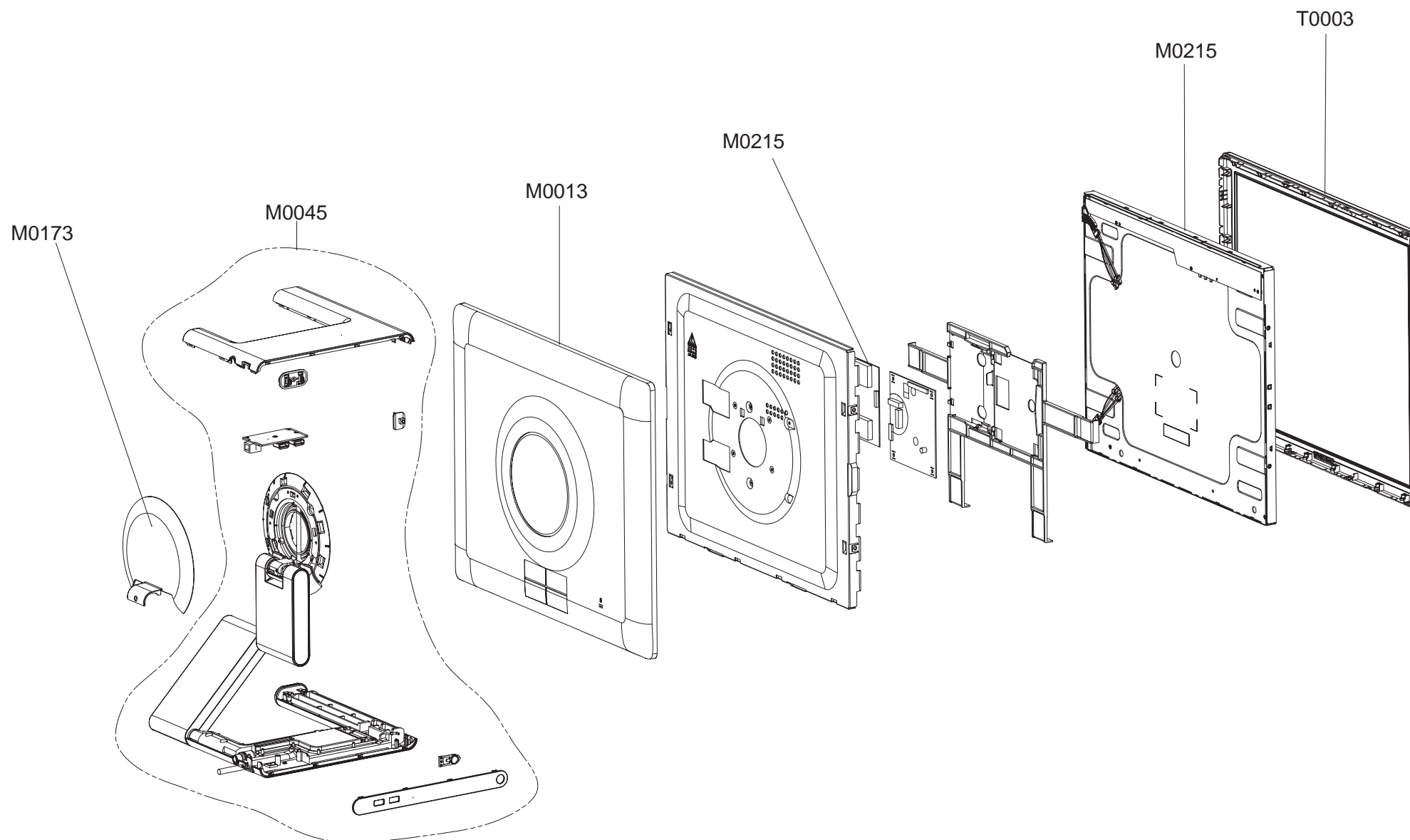
波形



备忘录

5 Exploded View and Parts List

-You can search for updated part codes through ITSELF web site.
URL : <http://itself.sec.samsung.co.kr>



5 Exploded View & Parts List

Location	Code.No	Item & Specification	Q'ty	SA/SNA	Remark
M0173	BN96-03041B	ASSY STAND P-CAP;LS19MB,BLACK,ABS HB,BK2	1	S.A	
M0045	BN96-03042H	ASSY STAND P-SET;LS19MBX(S/M 971P),DC 40	1	S.A	
M0013	BN96-03040B	ASSY COVER P-REAR;LS19MBP,ABS HB,BK26,BL	1	S.A	
M0215	BN07-00405A	LCD-PANEL;LTM190E4-L31-D,Mobius,6bit Hi-	1	S.A	
M0215	BN44-00118D	INVERTER;Mobius,M260,14V,3.3~4.4mA,6.8~8	1	S.A	
T0003	BN96-03892B	ASSY COVER P-FRONT;MOBIUS,DP,BN96-03039B	1	S.A	

6 Electrical Parts List

-You can search for updated part codes through ITSELF web site.

URL : <http://itself.sec.samsung.co.kr/>

6-1 Parts List

Level	Loc. No.	Code No.	Description & Specification	Q'ty	SA/SNA
		LS19MBXXFV/XSF	971P,SAD1/S19AZ-LMB,19,LCD-MO,CHINA		
0.1	M0001	BN90-00971G	ASSY COVER FRONT;CX971P-XF/KOR,DC 4000:1	1	S.N.A
..2	T0003	BN96-03892B	ASSY COVER P-FRONT;MOBIUS,DP,BN96-03039B	1	S.A
...3	T0003	6902-000604	BAG WRAPPING;LDPE,T0.02,W500,L10000,TRP,	0.138	S.N.A
...3	M0081	6902-000611	BAG ROLL;PE FOAM,T1.0,-,-,-,-,-	0.483	S.N.A
...3	T0172	AA69-02609A	BAND-PP;W18,CLEA,1G	0.047	S.N.A
...3	CCM1	BN63-02183D	COVER-SHEET;Rhom,PE Vinyl,T0.05,680mm,20	0.5	S.N.A
...3	M0112	BN63-02418B	COVER-FRONT;LS19MBP,ABS,PC+ABS,BK25,SI-4	1	S.N.A
0.1	M0002	BN90-00972B	ASSY COVER REAR;LS19MBPXV/EDC,BLACK	1	S.N.A
..2	M0013	BN96-03040B	ASSY COVER P-REAR;LS19MBP,ABS HB,BK26,BL	1	S.A
...3	M0006	BN63-02419B	COVER-REAR;LS19MB,ABS,HB,BK26,BLACK	1	S.N.A
...3	M0126	BN73-00126B	RUBBER-FOOT;MOBIUS,ELASTOMER,85,BLACK	2	S.N.A
0.1	M0216	BN90-00973G	ASSY STAND;LS19MBX(971P),DC 4000:1,BLACK	1	S.N.A
..2	M0173	BN96-03041B	ASSY STAND P-CAP;LS19MB,BLACK,ABS HB,BK2	1	S.A
...3	M0006	BN63-02420B	COVER-REAR SUB;LS19MB,ABS,HB,BK26,BLACK	1	S.A
...3		BN63-02421A	SHIELD-JACK;MOBIUS,SPTT,T0.3	1	S.N.A
..2	M0045	BN96-03042H	ASSY STAND P-SET;LS19MBX(S/M 971P),DC 40	1	S.A
...3	T0081	6001-000352	SCREW-MACHINE;FH,+,M3,L6,NI PLT,SWRCH18A	1	S.N.A
...3	T0081	6001-001920	SCREW-MACHINE;PH,+,WWP,M5,L12,NI PLT,SWR	2	S.A
...3	M0081	6003-000115	SCREW-TAPTITE;BH,+,B,M3,L6,ZPC(BLK),SWRC	3	S.A
...3		6011-001445	BOLT-SOCKET;4-40 UNC,L7,NI PLT,BRASS,HEX	2	S.N.A
...3	M0134	BN39-00743B	CBF-STAND CABLE;Mobius,UL20276,UL/CSA,24	1	S.A
...3	M0142	BN61-00251A	FOOT-RUBBER;GH17BS,RUBBER,T1.6	1	S.N.A
...3		BN61-02374A	BRACKET-PLATE;MOBIUS,SECC,T1.0	1	S.N.A
...3	T0920	BN61-02375B	GUIDE-STAND;ACETAL,MOBIUS,BLACK	1	S.N.A
...3		BN61-02377A	BRACKET-STAND BOTTOM;MOBIUS,ALDC2	1	S.N.A
...3		BN63-02422B	COVER-STAND FRONT;LS19MB,ABS,HB,BK26,HIG	1	S.N.A
...3		BN63-02423B	COVER-STAND REAR;LS19MB,ABS,HB,BK26,HIGH	1	S.N.A
...3		BN63-02424A	COVER-STAND VESA;MOBIUS,ABS,HB,GR70(HF06	1	S.N.A
...3		BN63-02425B	COVER-STAND LIFT FRONT;LS19MB,ABS,HB,BK2	1	S.N.A
...3	M0174	BN63-02426B	COVER-STAND TOP;LS19MB (S/M971P),ABS,HB,	1	S.N.A
...3	T0003	BN63-02427B	COVER-STAND BOTTOM;LS19MB,ABS,HB,BK26,HI	1	S.N.A
...3		BN63-02428B	COVER-STAND LIFT REAR;LS19MB,ABS,HB,BK26	1	S.N.A
...3	M0146	BN63-02429B	COVER-SIDE;LS19MB,ABS,HB,BK26,BKM-4513	1	S.N.A
...3		BN63-02430B	COVER-STAND SUB;LS19MB,ABS,HB,BKM-4513,B	1	S.N.A
...3	M0146	BN63-02432B	COVER-SIDE;LS19MB,ABS,HB,BK26,BKM-4513	1	S.N.A
...3	M0146	BN63-02433B	COVER-SIDE;LS19MB,ABS,HB,BK26,BKM-4513	1	S.N.A
...3	M0146	BN63-02434B	COVER-SIDE;LS19MB,ABS,HB,BK26,BKM-4513	1	S.N.A
...3	M0001	BN63-02440A	SHIELD-INSULATOR;MOBIUS,SPTT,T0.3	1	S.N.A
...3	T0059	BN64-00469A	INDICATOR LED;MOBIUS,PC,CLR	1	S.N.A
...3		BN64-00470B	KNOB-MENU;MOBIUS,ABS HB BK26,BKM-4513	1	S.N.A
...3		BN64-00471B	INLAY-PLATE;MOBIUS,PS SHEET HB,T0.5,BKM-	1	S.N.A
...3	T0023	BN64-00472A	KNOB POWER;MOBIUS,ABS,HB,GR70(HF0684U)	1	S.N.A
...3	T0132	BN73-00077A	RUBBER FOOT;MATISSE,BUMPON,"#13.5,T2.0,6	3	S.N.A
...3	T0054	BN96-03043A	ASSY HINGE P;MOBIUS,AIDC,ZNDC2	1	S.N.A
...3	M0020	BN96-03795A	ASSY BOARD P;MOBIUS,CT5000-4280A,POWER B	1	S.A
...3	M0020	BN96-03796A	ASSY BOARD P;MOBIUS,CT5000-4290A,MENU BO	1	S.A
...3		BN96-03797A	ASSY USB P;MOBIUS,2,USB BOARD ASS'Y	1	S.A
....4	USB	0406-001217	DIODE-TVS;NUP4301MR6,6/-V,500W,TSOP-6	1	S.A
....4	Q409	0505-001957	FET-SILICON;NTR2101P,P,-8V,-3.7A,0.052oh	1	S.A
....4	T0596	0904-001972	IC-USC;USB2504,8Bit,TQFP,64P,10x10x1.4mm	1	S.A
....4	T0087	1203-003695	IC-POSI.FIXED REG.;NCP1117ST33T3G,SOT-22	1	S.A
....4	P803T	1404-001223	THERMISTOR-PTC;45mohm,20,6V,-,40A,4A,TP	1	S.A
....4	T0568	3301-001594	BEAD-SMD;90ohm,2.0*1.2*1.3mm,-,TP,-,-,-	3	S.N.A
....4	Q409	0505-000110	FET-SILICON;2N7002,N,60V,115mA,7.5ohm,0.	1	S.A
....4	USB	2402-001033	C-AL,SMD;220uF,20%,16V,GP,TP,8.3x8.3x10	1	S.A

6 Electrical Parts List

Level	Loc. No.	Code No.	Description & Specification	Q'ty	SA/SNA
....4	USB	2409-001065	C-ORGANIC;82uF,20%,16V,WT,TP,8X6.9mm,-	2	S.A
....4	USB	2801-003326	CRYSTAL-SMD;24MHZ,30PPM,28-ABX,20PF,500H	1	S.A
0.1	MP1.4	BN91-00591W	ASSY MISC-ADAPTOR;MOBIUS	1	S.N.A
..2	M0158	BN44-00139A	ADAPTOR;SAD03612A-UV,ADAPTOR,90 ~ 264Vac	1	S.A
0.1	T0852	BN91-01303L	ASSY LCD-SPZ;LS19MBX	1	S.N.A
..2	M0215	BN07-00405A	LCD-PANEL;LTM190E4-L31-D,Mobius,6bit Hi-	1	S.A
0.1	M0017	BN91-01452F	ASSY CHASSIS-SPZ,W/W;LS19MBX*	1	S.A
..2	M2893	BN39-00419A	LEAD CONNECTOR;DS17BS,UL1571#30,UL/CSA,1	1	S.A
..2	M2893	BN39-00645B	LEAD CONNECTOR-LVDS;MOBIUS,UL1571#30,UL/	1	S.A
..2	M0215	BN44-00118D	INVERTER;Mobius,M260,14V,3.3~4.4mA,6.8-8	1	S.A
..2	T0010	BN61-02133A	HOLDER-SUB PCB;LS19HJD,HIPS V0,GR501	1	S.N.A
..2	M0014	BN94-01233E	ASSY PCB MAIN-SPZ,W/W;LS19MBX*	1	S.N.A
...3	T0245	0202-001492	SOLDER-WIRE FLUX;HSE-02 LFM48 SR-34 S,-	0.003	S.N.A
...3	CN330	3711-002001	HEADER-BOARD TO CABLE;BOX,20P,2R,2MM,STR	1	S.A
...3	CN330	3711-002002	HEADER-BOARD TO CABLE;BOX,22P,2R,2MM,STR	1	S.A
...3	T0530	BN61-01462A	SUPPORT-PCB;RL17PS,SPTE,T0.5	1	S.N.A
...3	T0530	BN61-01462A	SUPPORT-PCB;RL17PS,SPTE,T0.5	1	S.N.A
...3	T0530	BN61-01462A	SUPPORT-PCB;RL17PS,SPTE,T0.5	1	S.N.A
...3	T0530	BN61-01462A	SUPPORT-PCB;RL17PS,SPTE,T0.5	1	S.N.A
...3	T0174	BN97-01472F	ASSY SMD;LS19MBX*	1	S.N.A
...4	SUB05	0202-001477	SOLDER-CREAM;LST309-M,-,D20-45\$,96.5Sn/	0.788	S.N.A
...4	D100	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200mA,SO	1	S.A
...4	D101	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200mA,SO	1	S.A
...4	D102	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200mA,SO	1	S.A
...4	D103	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200mA,SO	1	S.A
...4	D104	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200mA,SO	1	S.A
...4	D105	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200mA,SO	1	S.A
...4	D106	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200mA,SO	1	S.A
...4	D107	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200mA,SO	1	S.A
...4	D108	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200mA,SO	1	S.A
...4	D109	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200mA,SO	1	S.A
...4	D110	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200mA,SO	1	S.A
...4	D0254	0402-000553	DIODE-SCHOTTKY;SS24/B240,40V,2000mA,DO-2	1	S.A
...4	D601	0402-001614	DIODE-RECTIFIER;S1G,400V,1A,DO-214AC,TP	1	S.A
...4	D602	0402-001614	DIODE-RECTIFIER;S1G,400V,1A,DO-214AC,TP	1	S.A
...4	ZD100	0403-001411	DIODE-ZENER;-5.49-5.73V,200mW,SOD-323,T	1	S.A
...4	ZD101	0403-001411	DIODE-ZENER;-5.49-5.73V,200mW,SOD-323,T	1	S.A
...4	ZD102	0403-001411	DIODE-ZENER;-5.49-5.73V,200mW,SOD-323,T	1	S.A
...4	ZD103	0403-001411	DIODE-ZENER;-5.49-5.73V,200mW,SOD-323,T	1	S.A
...4	ZD104	0403-001411	DIODE-ZENER;-5.49-5.73V,200mW,SOD-323,T	1	S.A
...4	ZD105	0403-001411	DIODE-ZENER;-5.49-5.73V,200mW,SOD-323,T	1	S.A
...4	ZD106	0403-001411	DIODE-ZENER;-5.49-5.73V,200mW,SOD-323,T	1	S.A
...4	ZD107	0403-001411	DIODE-ZENER;-5.49-5.73V,200mW,SOD-323,T	1	S.A
...4	ZD108	0403-001411	DIODE-ZENER;-5.49-5.73V,200mW,SOD-323,T	1	S.A
...4	ZD111	0403-001411	DIODE-ZENER;-5.49-5.73V,200mW,SOD-323,T	1	S.A
...4	ZD115	0403-001411	DIODE-ZENER;-5.49-5.73V,200mW,SOD-323,T	1	S.A
...4	ZD116	0403-001411	DIODE-ZENER;-5.49-5.73V,200mW,SOD-323,T	1	S.A
...4	ZD117	0403-001411	DIODE-ZENER;-5.49-5.73V,200mW,SOD-323,T	1	S.A
...4	ZD118	0403-001411	DIODE-ZENER;-5.49-5.73V,200mW,SOD-323,T	1	S.A
...4	D0254	0404-001020	DIODE-SCHOTTKY;BAT54C,30V,200mA,SOT-23,T	1	S.A
...4	D0254	0404-001020	DIODE-SCHOTTKY;BAT54C,30V,200mA,SOT-23,T	1	S.A
...4	Q102	0501-000342	TR-SMALL SIGNAL;KSC1623-Y,NPN,200mW,SOT-	1	S.A
...4	Q201	0501-000342	TR-SMALL SIGNAL;KSC1623-Y,NPN,200mW,SOT-	1	S.A
...4	Q203	0501-000342	TR-SMALL SIGNAL;KSC1623-Y,NPN,200mW,SOT-	1	S.A
...4	Q601	0501-000342	TR-SMALL SIGNAL;KSC1623-Y,NPN,200mW,SOT-	1	S.A
...4	Q602	0501-000342	TR-SMALL SIGNAL;KSC1623-Y,NPN,200mW,SOT-	1	S.A
...4	Q605	0501-000342	TR-SMALL SIGNAL;KSC1623-Y,NPN,200mW,SOT-	1	S.A
...4	Q101	0501-002080	TR-SMALL SIGNAL;2SC2412K,NPN,200mW,SC-59	1	S.A
...4	Q409	0505-001957	FET-SILICON;NTR2101P,P,-8V,-3.7A,0.052oh	1	S.A
...4	Q409	0505-001957	FET-SILICON;NTR2101P,P,-8V,-3.7A,0.052oh	1	S.A
...4	IC112	1103-000129	IC-EEPROM;24C02,2Kbit,256x8Bit,SOP,8P,5x	1	S.A

Level	Loc. No.	Code No.	Description & Specification	Q'ty	SA/SNA
....4	IC112	1103-001023	IC-EEPROM;24C08,8Kbit,1Kx8Bit,SOP,8P,5x4	1	SA
....4	IC603	1202-000164	IC-VOLTAGE COMP.;393,SOP,8P,150MIL,DUAL,	1	SA
....4	T0170	1203-003059	IC-SWITCH VOL. REG.;MP1583,SOIC,8P,4.9x3	1	SA
....4	T0087	1203-003695	IC-POSIFIXED REG.;NCP1117ST33T3G,SOT-22	1	SA
....4	T0087	1203-003696	IC-POSIFIXED REG.;NCP1117DT18T5G,DPAK,3	1	SA
....4	IC109	1205-002905	IC-LCD CONTROLLER;SE656MR-LF,PQFP,128P,2	1	SA
....4	R144	2007-000043	R-CHIP;1Kohm,1%,1/10W,TP,1608	1	SA
....4	R608	2007-000052	R-CHIP;10Kohm,1%,1/10W,TP,1608	1	SA
....4	R610	2007-000052	R-CHIP;10Kohm,1%,1/10W,TP,1608	1	SA
....4	R135	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	SA
....4	R137	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	SA
....4	R138	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	SA
....4	R238	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	SA
....4	R239	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	SA
....4	R253	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	SA
....4	R118	2007-000071	R-CHIP;22ohm,5%,1/10W,TP,1608	1	SA
....4	R119	2007-000071	R-CHIP;22ohm,5%,1/10W,TP,1608	1	SA
....4	R105	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	SA
....4	R106	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	SA
....4	R107	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	SA
....4	R108	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	SA
....4	R139	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	SA
....4	R140	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	SA
....4	R143	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	SA
....4	R214	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	SA
....4	R226	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	SA
....4	R227	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	SA
....4	R235	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	SA
....4	R254	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	SA
....4	R151	2007-000076	R-CHIP;330ohm,5%,1/10W,TP,1608	1	SA
....4	R103	2007-000078	R-CHIP;1Kohm,5%,1/10W,TP,1608	1	SA
....4	R101	2007-000080	R-CHIP;2Kohm,5%,1/10W,TP,1608	1	SA
....4	R256	2007-000080	R-CHIP;2Kohm,5%,1/10W,TP,1608	1	SA
....4	R615	2007-000080	R-CHIP;2Kohm,5%,1/10W,TP,1608	1	SA
....4	R120	2007-000084	R-CHIP;4.7Kohm,5%,1/10W,TP,1608	1	SA
....4	R121	2007-000084	R-CHIP;4.7Kohm,5%,1/10W,TP,1608	1	SA
....4	R237	2007-000084	R-CHIP;4.7Kohm,5%,1/10W,TP,1608	1	SA
....4	R257	2007-000084	R-CHIP;4.7Kohm,5%,1/10W,TP,1608	1	SA
....4	R614	2007-000084	R-CHIP;4.7Kohm,5%,1/10W,TP,1608	1	SA
....4	R104	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	SA
....4	R201	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	SA
....4	R204	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	SA
....4	R205	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	SA
....4	R216	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	SA
....4	R223	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	SA
....4	R224	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	SA
....4	R229	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	SA
....4	R230	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	SA
....4	R240	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	SA
....4	R241	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	SA
....4	R242	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	SA
....4	R243	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	SA
....4	R244	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	SA
....4	R252	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	SA
....4	R255	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	SA
....4	R258	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	SA
....4	R603	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	SA
....4	R607	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	SA
....4	R609	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	SA
....4	R611	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	SA
....4	R612	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	SA
....4	R613	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	SA
....4	R617	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	SA
....4	R109	2007-000093	R-CHIP;20Kohm,5%,1/10W,TP,1608	1	SA

6 Electrical Parts List

Level	Loc. No.	Code No.	Description & Specification	Q'ty	SA/SNA
....4	R606	2007-000102	R-CHIP;100Kohm,5%,1/10W,TP,1608	1	S.A
....4	R616	2007-000102	R-CHIP;100Kohm,5%,1/10W,TP,1608	1	S.A
....4	R122	2007-000287	R-CHIP;100OHM,1%,1/10W,TP,1608	1	S.A
....4	R124	2007-000287	R-CHIP;100OHM,1%,1/10W,TP,1608	1	S.A
....4	R125	2007-000287	R-CHIP;100OHM,1%,1/10W,TP,1608	1	S.A
....4	R127	2007-000287	R-CHIP;100OHM,1%,1/10W,TP,1608	1	S.A
....4	R129	2007-000287	R-CHIP;100OHM,1%,1/10W,TP,1608	1	S.A
....4	R133	2007-000287	R-CHIP;100OHM,1%,1/10W,TP,1608	1	S.A
....4	R250	2007-000309	R-CHIP;10ohm,5%,1/10W,TP,1608	1	S.A
....4	R251	2007-000309	R-CHIP;10ohm,5%,1/10W,TP,1608	1	S.A
....4	R605	2007-000458	R-CHIP;18Kohm,5%,1/10W,TP,1608	1	S.A
....4	R110	2007-000659	R-CHIP;27ohm,5%,1/10W,TP,1608	1	S.A
....4	R111	2007-000659	R-CHIP;27ohm,5%,1/10W,TP,1608	1	S.A
....4	R112	2007-000659	R-CHIP;27ohm,5%,1/10W,TP,1608	1	S.A
....4	R113	2007-000659	R-CHIP;27ohm,5%,1/10W,TP,1608	1	S.A
....4	R114	2007-000659	R-CHIP;27ohm,5%,1/10W,TP,1608	1	S.A
....4	R115	2007-000659	R-CHIP;27ohm,5%,1/10W,TP,1608	1	S.A
....4	R116	2007-000659	R-CHIP;27ohm,5%,1/10W,TP,1608	1	S.A
....4	R117	2007-000659	R-CHIP;27ohm,5%,1/10W,TP,1608	1	S.A
....4	R128	2007-000821	R-CHIP;390ohm,1%,1/10W,TP,1608	1	S.A
....4	R232	2007-000821	R-CHIP;390ohm,1%,1/10W,TP,1608	1	S.A
....4	R602	2007-000962	R-CHIP;5.1Kohm,1%,1/10W,TP,1608	1	S.A
....4	R601	2007-000965	R-CHIP;5.1Kohm,5%,1/10W,TP,1608	1	S.A
....4	R102	2007-001002	R-CHIP;510ohm,5%,1/10W,TP,1608	1	S.A
....4	R142	2007-001157	R-CHIP;750ohm,5%,1/10W,TP,1608	1	S.A
....4	R123	2007-001164	R-CHIP;75ohm,1%,1/10W,TP,1608	1	S.A
....4	R126	2007-001164	R-CHIP;75ohm,1%,1/10W,TP,1608	1	S.A
....4	R130	2007-001164	R-CHIP;75ohm,1%,1/10W,TP,1608	1	S.A
....4	R600	2007-007841	R-CHIP;16.2Kohm,1%,1/10W,TP,1608	1	S.A
....4	C604	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C617	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C101	2203-000236	C-CER,CHIP;0.1nF,5%,50V,C0G,1608	1	S.A
....4	C102	2203-000236	C-CER,CHIP;0.1nF,5%,50V,C0G,1608	1	S.A
....4	C610	2203-000236	C-CER,CHIP;0.1nF,5%,50V,C0G,1608	1	S.A
....4	C100	2203-000257	C-CER,CHIP;10nF,10%,50V,X7R,1608	1	S.A
....4	C103	2203-000257	C-CER,CHIP;10nF,10%,50V,X7R,1608	1	S.A
....4	C600	2203-000257	C-CER,CHIP;10nF,10%,50V,X7R,1608	1	S.A
....4	C605	2203-000257	C-CER,CHIP;10nF,10%,50V,X7R,1608	1	S.A
....4	C606	2203-000257	C-CER,CHIP;10nF,10%,50V,X7R,1608	1	S.A
....4	C623	2203-000257	C-CER,CHIP;10nF,10%,50V,X7R,1608	1	S.A
....4	C201	2203-000626	C-CER,CHIP;0.022nF,5%,50V,C0G,1608	1	S.A
....4	C202	2203-000626	C-CER,CHIP;0.022nF,5%,50V,C0G,1608	1	S.A
....4	C692	2203-000975	C-CER,CHIP;47nF,10%,25V,X7R,TP,1608,-	1	S.A
....4	C112	2203-000998	C-CER,CHIP;0.047nF,5%,50V,C0G,1608	1	S.A
....4	C113	2203-000998	C-CER,CHIP;0.047nF,5%,50V,C0G,1608	1	S.A
....4	C104	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C105	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C106	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C107	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C108	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C109	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C110	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C111	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C114	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C115	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C116	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C117	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C118	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C122	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C123	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C134	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C135	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C136	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C208	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A

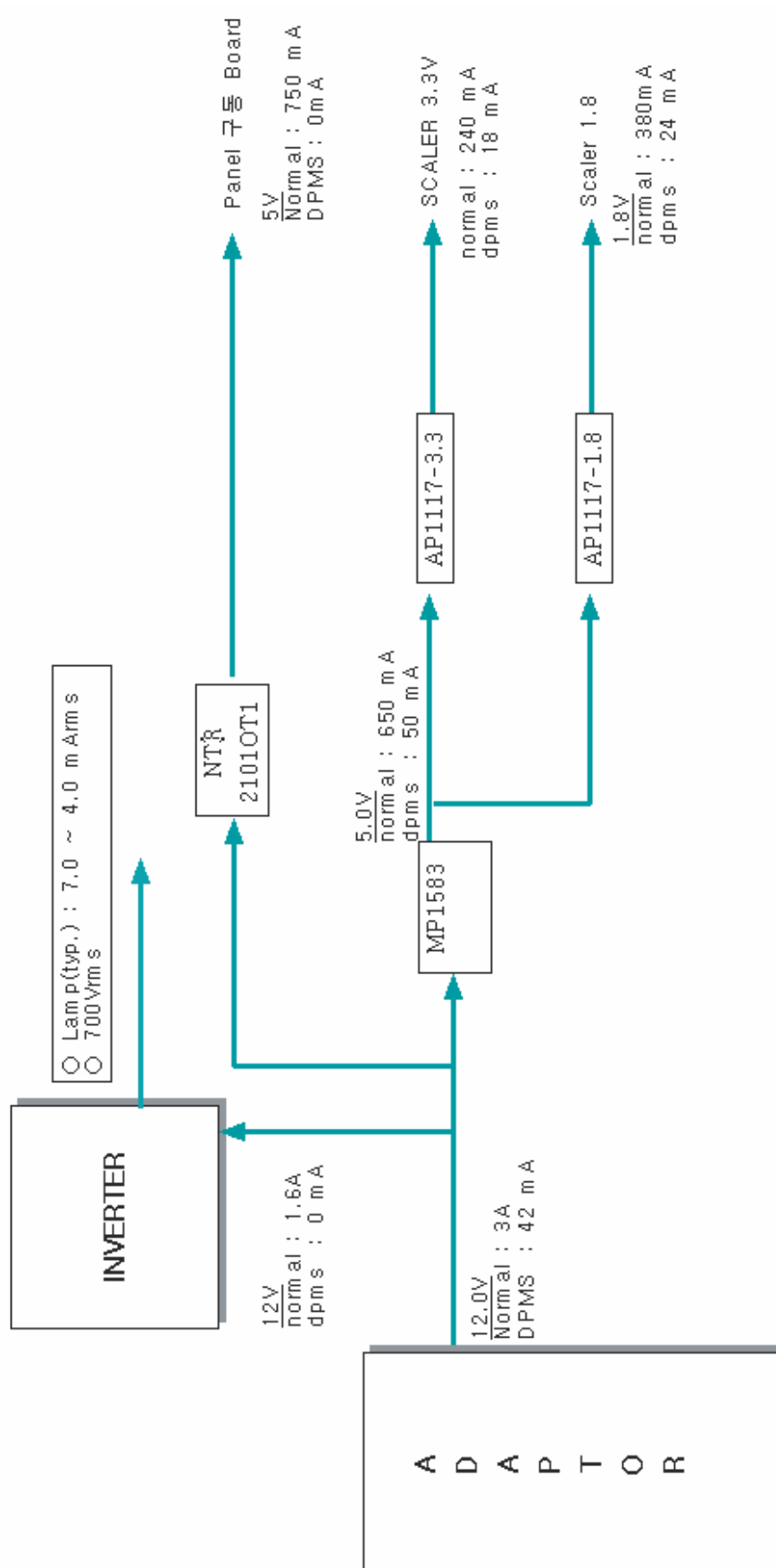
Level	Loc. No.	Code No.	Description & Specification	Q'ty	SA/SNA
....4	C230	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C250	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C436	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C607	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C614	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C615	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C616	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C621	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C624	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C625	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C626	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C628	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C629	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C630	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C631	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C632	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C634	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C635	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C636	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C637	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C638	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C640	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C642	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C646	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C648	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C649	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C650	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C651	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C694	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C695	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C696	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C131	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C251	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C601	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C693	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C698	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C200	2203-005437	C-CER,CHIP;10000nF,+80-20%,10V,Y5V,3216	1	S.A
....4	C612	2203-005437	C-CER,CHIP;10000nF,+80-20%,10V,Y5V,3216	1	S.A
....4	C613	2203-005437	C-CER,CHIP;10000nF,+80-20%,10V,Y5V,3216	1	S.A
....4	C618	2203-005437	C-CER,CHIP;10000nF,+80-20%,10V,Y5V,3216	1	S.A
....4	C619	2203-005437	C-CER,CHIP;10000nF,+80-20%,10V,Y5V,3216	1	S.A
....4	C620	2203-005437	C-CER,CHIP;10000nF,+80-20%,10V,Y5V,3216	1	S.A
....4	C622	2203-005437	C-CER,CHIP;10000nF,+80-20%,10V,Y5V,3216	1	S.A
....4	C627	2203-005437	C-CER,CHIP;10000nF,+80-20%,10V,Y5V,3216	1	S.A
....4	C633	2203-005437	C-CER,CHIP;10000nF,+80-20%,10V,Y5V,3216	1	S.A
....4	C639	2203-005437	C-CER,CHIP;10000nF,+80-20%,10V,Y5V,3216	1	S.A
....4	C643	2203-005437	C-CER,CHIP;10000nF,+80-20%,10V,Y5V,3216	1	S.A
....4	C697	2203-005437	C-CER,CHIP;10000nF,+80-20%,10V,Y5V,3216	1	S.A
....4	C611	2203-006036	C-CER,CHIP;680nF,+80-20%,16V,Y5V,TP,1608	1	S.A
....4	C602	2402-000147	C-AL,SMD;33uF,20%,25V,-,TP,6.3x5.2,-	1	S.A
....4	C119	2402-001044	C-AL,SMD;100uF,20%,25V,GP,TP,8.3X8.3X6.3	1	S.A
....4	C608	2409-001051	C-ORGANIC;82uF,20%,6.3V,WT,TP,6.3*5.9MM,	1	S.A
....4	C652	2409-001065	C-ORGANIC;82uF,20%,16V,WT,TP,8X6.9mm,-	1	S.A
....4	C653	2409-001065	C-ORGANIC;82uF,20%,16V,WT,TP,8X6.9mm,-	1	S.A
....4	T0052	2703-002801	INDUCTOR-SMD;3.9uH,20%,7070	1	S.A
....4	T0052	2703-003052	INDUCTOR-SMD;3.3uH,20%,7070	1	S.A
....4	X1	2801-003667	CRYSTAL-SMD;14.31818MHz,30ppm,28-AAN,16,	1	S.A
....4	T0568	3301-001288	BEAD-SMD;30ohm,1608,TP,-,-	1	S.A
....4	T0568	3301-001288	BEAD-SMD;30ohm,1608,TP,-,-	1	S.A
....4	T0568	3301-001569	BEAD-SMD;600ohm,2012,1000mA,TP,520ohm/90	1	S.N.A
....4	T0568	3301-001569	BEAD-SMD;600ohm,2012,1000mA,TP,520ohm/90	1	S.N.A
....4	T0568	3301-001569	BEAD-SMD;600ohm,2012,1000mA,TP,520ohm/90	1	S.N.A
....4	T0568	3301-001569	BEAD-SMD;600ohm,2012,1000mA,TP,520ohm/90	1	S.N.A
....4	T0568	3301-001569	BEAD-SMD;600ohm,2012,1000mA,TP,520ohm/90	1	S.N.A

6 Electrical Parts List

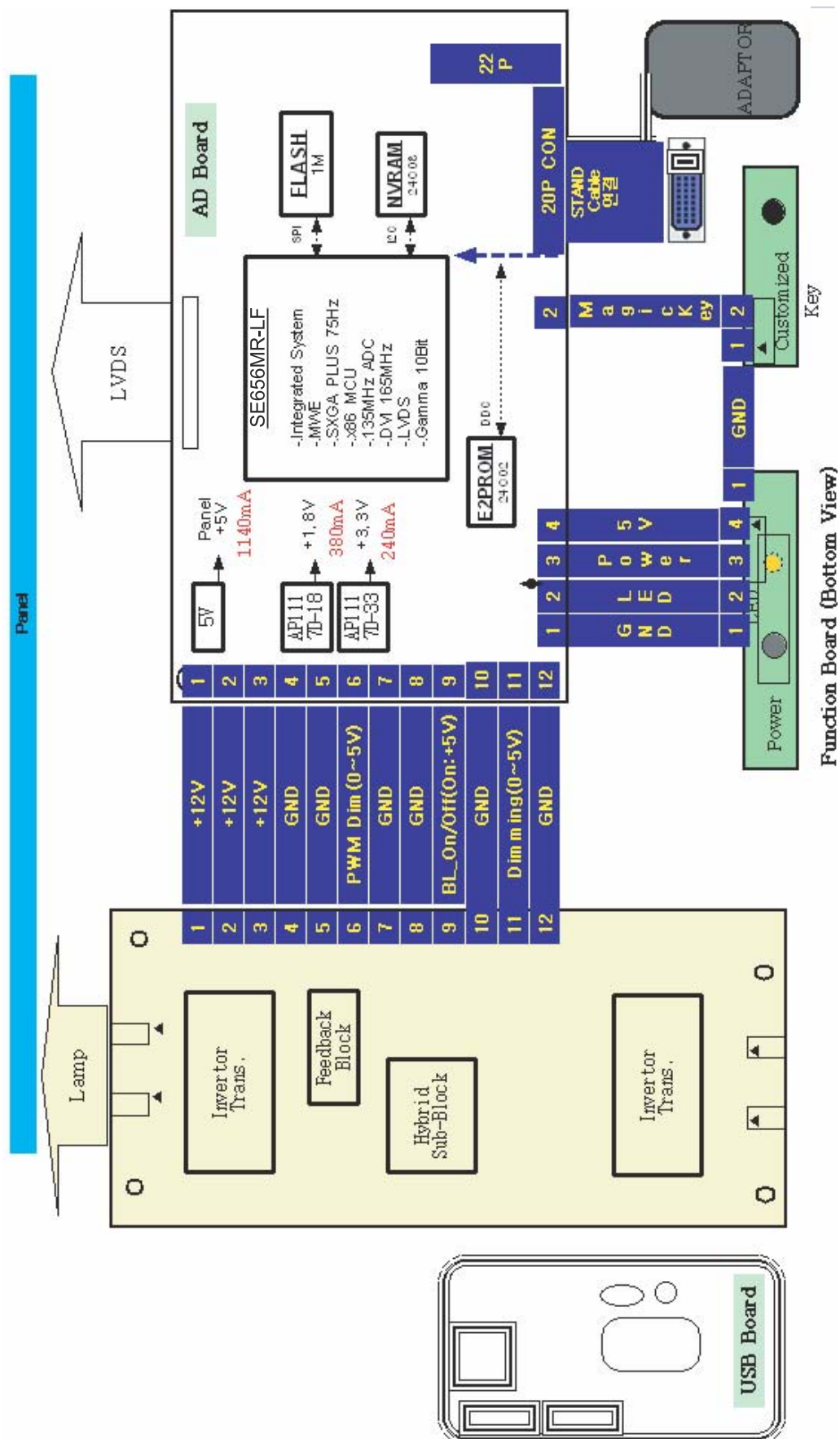
Level	Loc. No.	Code No.	Description & Specification	Q'ty	SA/SNA
....4	T0568	3301-001569	BEAD-SMD;600ohm,2012,1000mA,TP,520ohm/90	1	S.N.A
....4	T0568	3301-001569	BEAD-SMD;600ohm,2012,1000mA,TP,520ohm/90	1	S.N.A
....4	T0568	3301-001793	BEAD-SMD;18ohm,1608,-,TP,11.8ohm/37.6MHz	1	S.A
....4	T0568	3301-001793	BEAD-SMD;18ohm,1608,-,TP,11.8ohm/37.6MHz	1	S.A
....4	T0568	3301-001793	BEAD-SMD;18ohm,1608,-,TP,11.8ohm/37.6MHz	1	S.A
....4	CN330	3711-005470	HEADER-BOARD TO CABLE;BOX,30P,1R,1.25mm,	1	S.A
....4	CN330	3711-005471	HEADER-BOARD TO CABLE;BOX,12P,1R,1.25mm,	1	S.A
....4	L600	BN27-00002A	COIL-CHOKE(SMD);47uH,47uH,20%,12*12*8mm,	1	S.A
....4	S201	BN32-00005A	SENSOR SW-TILT;SPSF100100,DC5V,1mA,-10 ~	1	S.A
....4	T0077	BN41-00735B	PCB MAIN;LS19MBP,Silver through,2,MP1.0,	1	S.N.A
....4	MICOM	BN97-01464T	ASSY MICOM-SPZ,W/W;M-MB19P0CAB-1000,(2AB	1	S.N.A
.....5	IC115	1107-001614	IC-FLASH MEMORY;MX25L1005,1Mbit,1Mx1Bit,	1	S.N.A
....4	C435	2402-001128	C-AL,SMD;100%IF,20%,16V,-,TP,6.3X5.7mm	1	S.A
....4	C609	2402-001128	C-AL,SMD;100%IF,20%,16V,-,TP,6.3X5.7mm	1	S.A
....4	C641	2402-001128	C-AL,SMD;100%IF,20%,16V,-,TP,6.3X5.7mm	1	S.A
....4	C645	2402-001128	C-AL,SMD;100%IF,20%,16V,-,TP,6.3X5.7mm	1	S.A
....4	C647	2402-001128	C-AL,SMD;100%IF,20%,16V,-,TP,6.3X5.7mm	1	S.A
0.1	M0019	BN92-00482K	ASSY LABEL;MO15PS	1	S.N.A
..2	CIS	BN68-00761F	MANUAL-02,QSG;Protection Sheet,SyncMaster	1	S.N.A
0.1	M0113	BN92-01751N	ASSY P/MATERIAL;CX913P-XH/KOR	1	S.N.A
..2	T0376	6902-000061	BAG AIR;LDPE,T0.2,L1000,W500,TRP,,,	0.005	S.N.A
..2	T0376	6902-000379	BAG AIR;LDPE,T0.2,W1000,L1800,TRP,-,--	0.001	S.N.A
..2	T0003	6902-000604	BAG WRAPPING;LDPE,T0.02,W500,L10000,TRP,	1.27	S.N.A
..2	M0081	6902-000609	BAG ROLL;LDPE,T0.05,W2400,L1000,TRP,-,-	0.032	S.N.A
..2	T0527	6902-000142	BAG SHEET;NITRON,T0.5,W700,L1100,WHT	1	S.N.A
0.1	M0003	BN92-02474X	ASSY BOX;LS19MBXXFV/XSF	1	S.N.A
..2	BOX	BN69-01370H	BOX-03,SET;S/M971P(LS19MBP),CB,A-1,H127,	1.01	S.N.A
..2	T0081	BN96-02895A	ASSY MISC P-HANDLE PACKING;ALL MODEL,BN6	1	S.N.A
...3	M0103	BN66-00007A	LEVER-TOP;ALL MODEL,LDPE,WHITE	1	S.N.A
...3	M0102	BN66-00008A	LEVER-BOTTOM;ALL MODEL,LDPE,WHITE	1	S.N.A
0.1	M0045	BN92-02475V	ASSY ACCESSORY;LS19MBXXFV/XSF	1	S.N.A
..2	M0125	BN39-00246D	CBF SIGNAL-DVI(D);RL17/19,24P/24P,20276-	1	S.A
..2	M0114	BN39-00310C	CBF SIGNAL;MOBIUS,15P/24P,20276-N,1830mm	1	S.A
..2	M0045	BN96-04954U	ASSY ACCESSORY;LS19MBXXFV/XSF	1	S.A
...3	T0268	3903-000082	CBF-POWER CORD;DT,CN,IP3/YES(A),I(IEC C1	1	S.A
...3	T0524	6902-000110	BAG PE;LDPE,T0.05,W250,L400,TRP,28,2	1	S.N.A
...3	M0113	BH68-70455A	CARD-TESTED GOODS;ALL (CHINA),SAMAUNG,CH	1	S.N.A
...3	ACCESSORY	BH75-00146B	UNIT-09,WARRANTY;CHINA,-,ASS'Y-W/CARD,BH	1	S.N.A
....4	T0238	BH68-00297E	MANUAL FLYER-WARRANTY CARD;SAMSUNG BASIC	1	S.N.A
....4	T0238	BH68-00297F	MANUAL FLYER-WARRANTY CARD;ENVELOPE,SAMS	1	S.N.A
...3	T0725	BN39-00397C	CBF INTERFACE-USB;SPL-07,4P/4P,2725(USB2	1	S.A
...3		BN63-02368A	CLOTH;LS07BTT,SUEDE,0.6,160,120	1	S.N.A
...3	M0215	BN96-03468F	ASSY MANUAL P-IB+QSG;971P,SyncMaster,DCR	1	S.N.A
....4	QSG	BH68-00376L	MANUAL FLYER-06,QSG;LCDQUICK SETUP GUIDE	1	S.N.A
....4	IB	BN59-00554D	S/W DRIVER-01,IB;971P,W/W,SyncMaster,Mob	1	S.N.A
0.1	M0112	BN91-01073B	ASSY SHIELD;LS19MBX,4000:1	1	S.N.A
..2	M0131	AA63-00775A	GASKET;MX15EO,CONDUCTIVE FABRIC,10,15,80	1	S.N.A
..2	T0081	6001-000352	SCREW-MACHINE;FH,+,M3,L6,NI PLT,SWRCH18A	1	S.N.A
..2	T0081	6001-000352	SCREW-MACHINE;FH,+,M3,L6,NI PLT,SWRCH18A	4	S.N.A
..2	M0081	6003-000115	SCREW-TAPTITE;BH,+,B,M3,L6,ZPC(BLK),SWRC	2	S.A
..2	M0081	6003-001238	SCREW-TAPTITE;FH,+,S,M4,L8,ZPC(BLK),SWRC	4	S.N.A
..2	M0107	BN63-02435A	SHIELD-COVER;MOBIUS,SECC,T0.8	1	S.N.A
..2	M0131	BN63-03541A	GASKET;Mobius,Conductive Fabric,13,5,7,G	4	S.N.A

7 Block Diagram

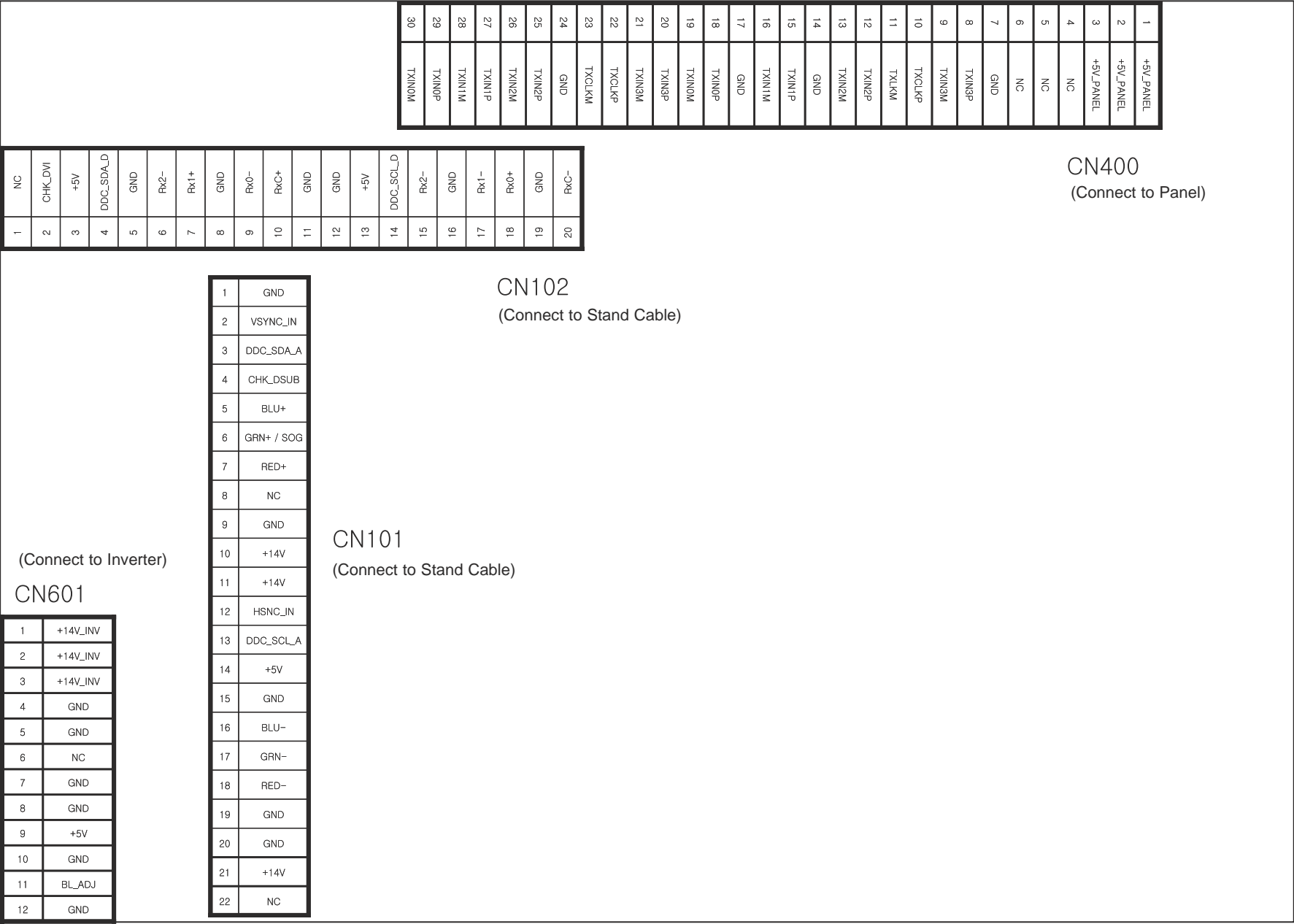
7-1 Power Tree



7-2 Block Diagram



8 Wiring Diagram

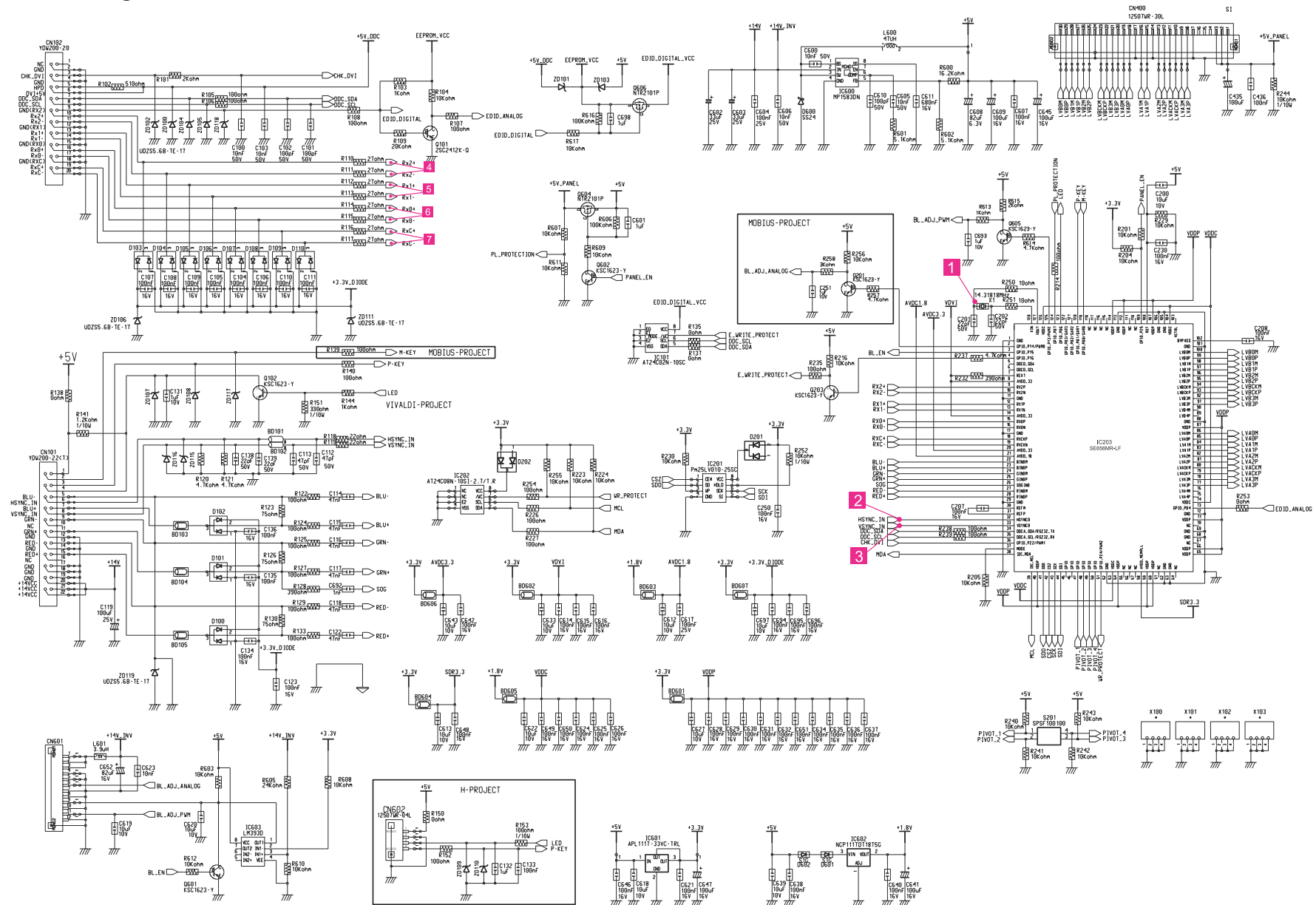


Memo

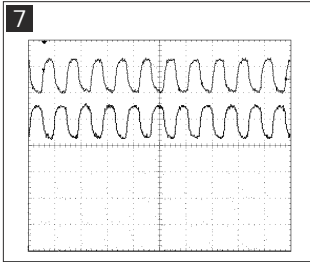
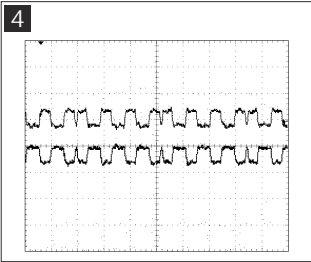
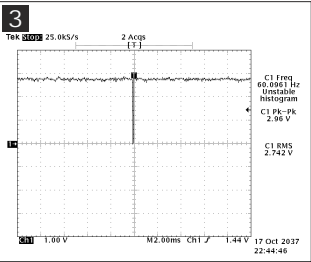
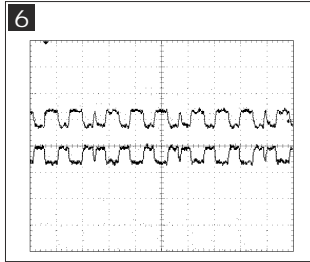
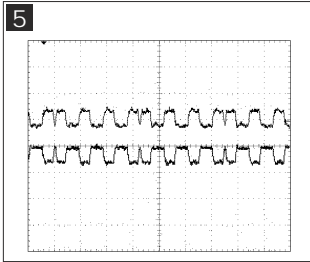
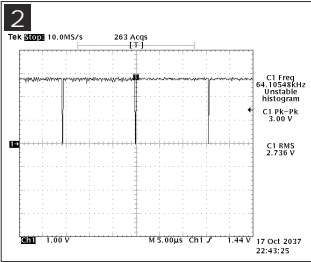
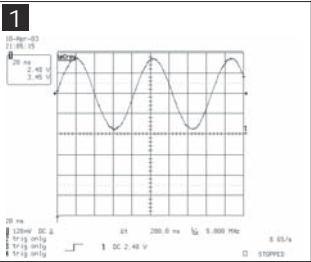
9 Schematic Diagrams

- This Document can not be used without Samsung's authorization.

9-1 Schematic Diagrams

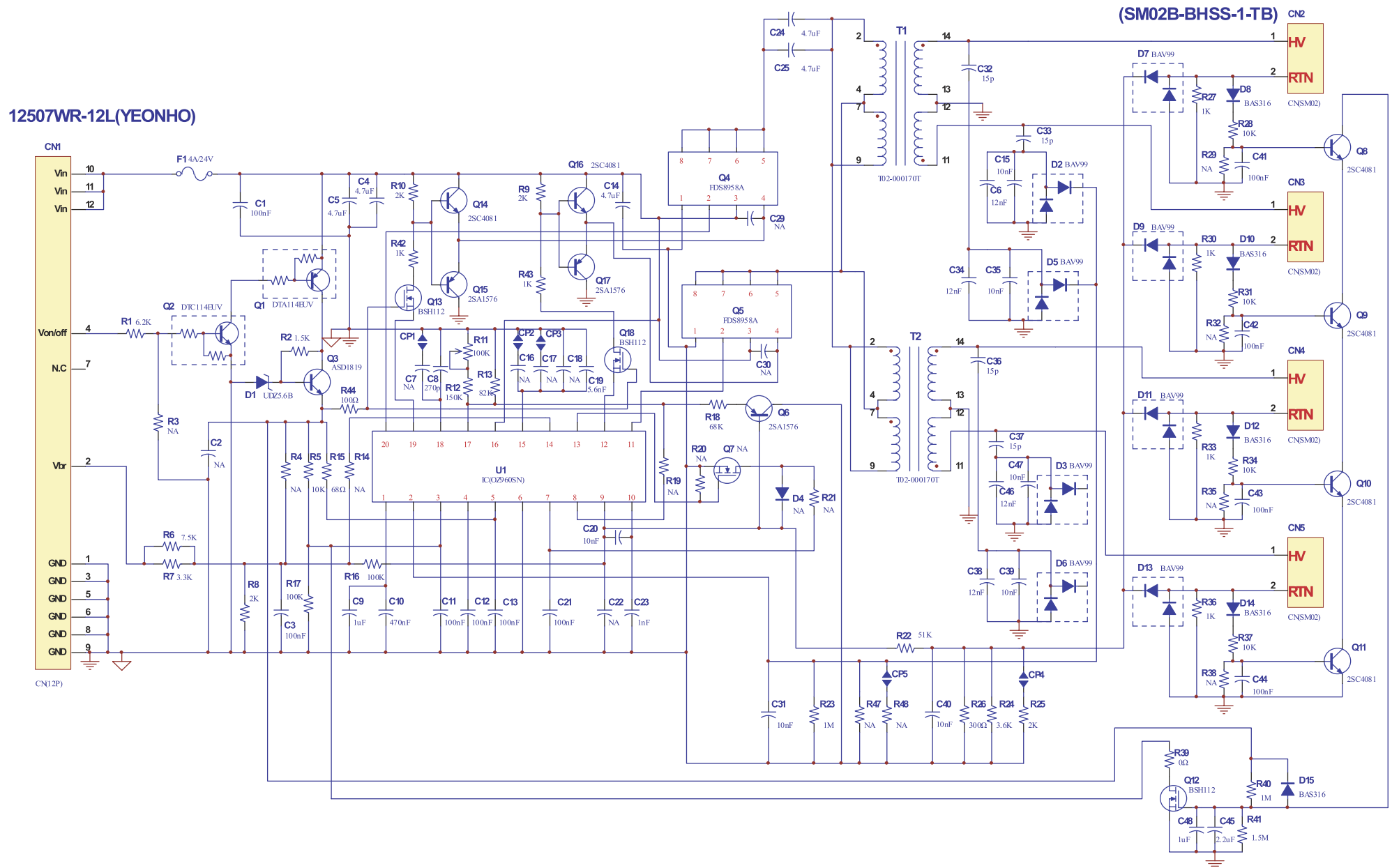


9 Schematic Diagrams





9-3 Power inverter Schematic Diagrams



10 运行说明和安装

10-1 产品特点



0°（标准）



90°（枢轴）



180°（枢轴）

- 采用 RTA 缩短响应时间: 6 ms（依据“灰至灰”）
- 支持魔幻颜色
- 魔幻亮度：使用 6 步
- 安装 Magic Tune 3.6 和 Pivot 软件
- 自动旋转：屏幕自动开关

- 带枢轴（旋转）可折叠三重双合页底座
- 自动供电、自动、按比例缩小（UXGA）
- VESA 底座 100X100mm 以及定制安装

10-2 零部件和功能



1. 定制键

可以按您的爱好为定制按钮设定按键分配情况。
（定制键功能）

如何调节： MagicTune>选装>定制键>MagicBright、
MagicColor、自动设置、来源选择、色调

2. 电源指示灯/电源按钮

在正常工作条件下蓝色灯照亮，而当设置调节显示器时闪烁。使用该按钮打开和关闭显示器，改变输入源或进行自动调节。

1) 开机/关机

当按下电源按钮时，显示器开/关。

2) 输入源

当按下电源按钮时，可以将输入源改为模拟或数字，以蓝光闪烁一次。

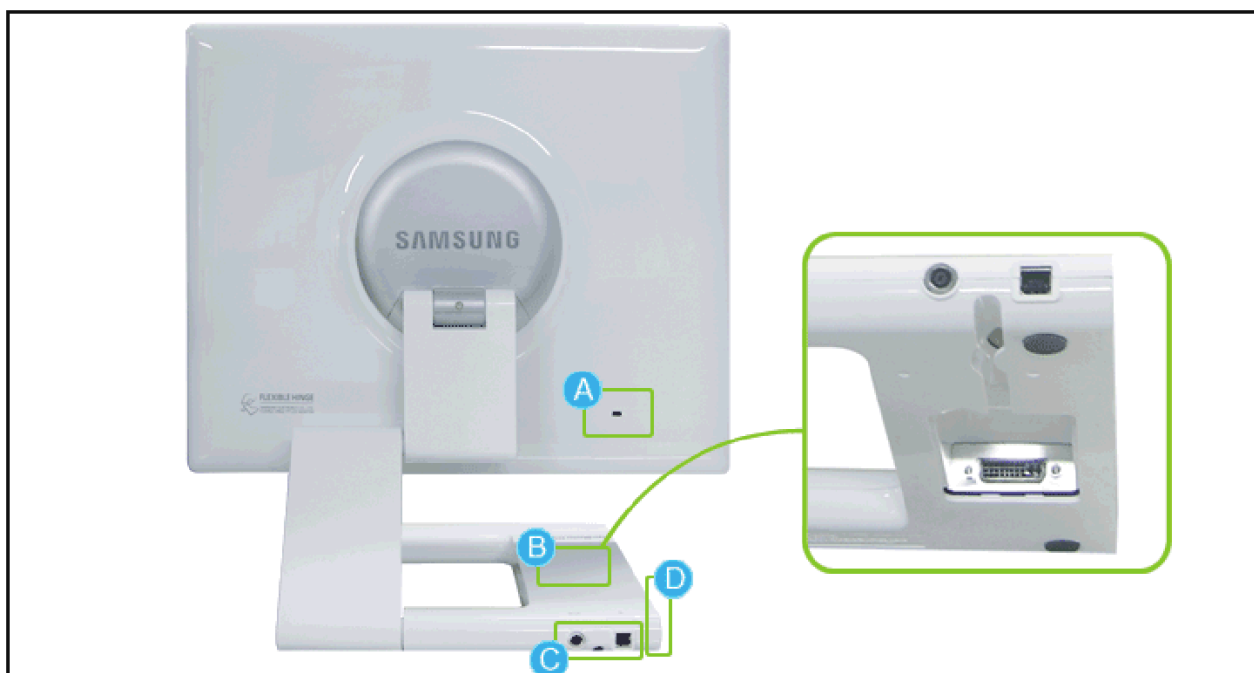
3) 自动调节

当按下电源按钮时，启用自动调节功能，以蓝光闪烁两次。（仅限于模拟）

10-3 新特点

- 采用 RTA 缩短响应时间：6ms（依据“灰至灰”）
- 支持魔幻颜色：演示、全部、智能
- 魔幻亮度：使用 6 步
文本、互联网、体育运动、游戏、电源和定制
- 安装 Magic Tune 3.6 和 Pivto 软件
- 自动旋转：当显示器以 90 或 180 度旋转时，显示屏 LED 和屏幕显示也相应自动旋转。只有当 Magic Tune 3.6 和 Pivot 软件正在运行时，才可执行本功能。

10-4 安装说明



（显示器背景的配置可能随产品而异。）

A

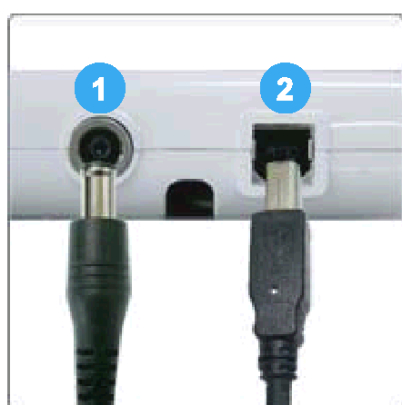


Kensington 锁

Kensington 锁是当在公共场所使用时用于固定 sy 的设备。
（必须单独购买锁定设备。）

B**DVI-IN 端口**

将专用 DVI/D-Sub 接线接到显示器背面的 DVI IN 端口上。

C**1. DC12V:**

将显示器的 DC 适配器接到显示器背面的电源端口上。

将显示器电源线插入附近的插座。

2. USB 连接端子（上行端口）**D****USB 连接端子（下行端口）**

备忘录

11 拆卸和重新组装


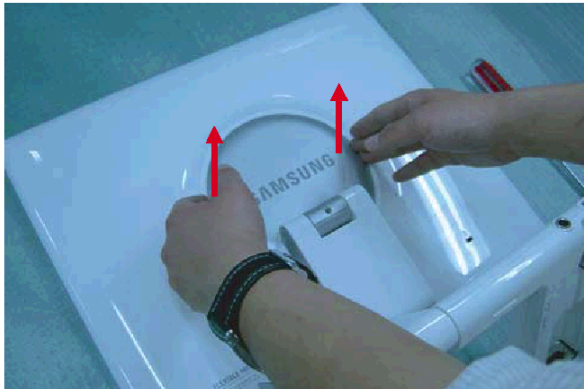
维修手册的这一章叙述 DE17PS/DE19PS 液晶显示器的拆卸和重新组装步骤。

 **警告：** 本显示器包含静电敏感器件。处理这些部件时应小心。

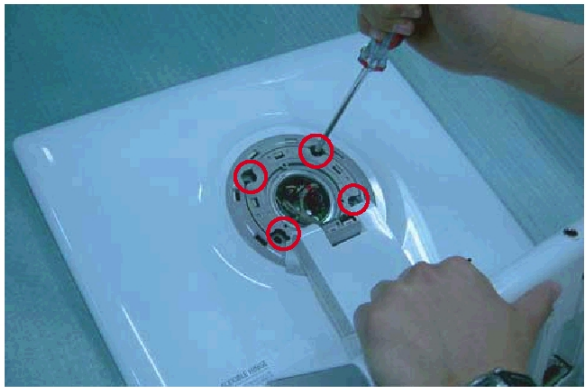
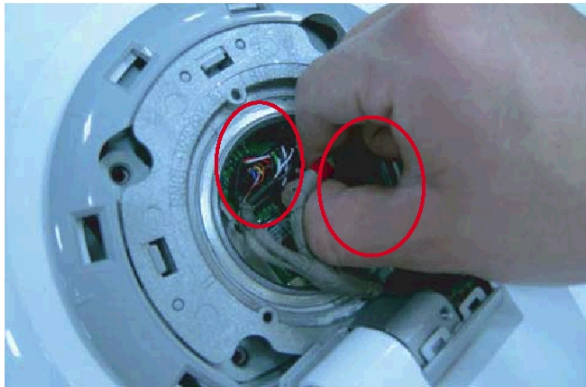

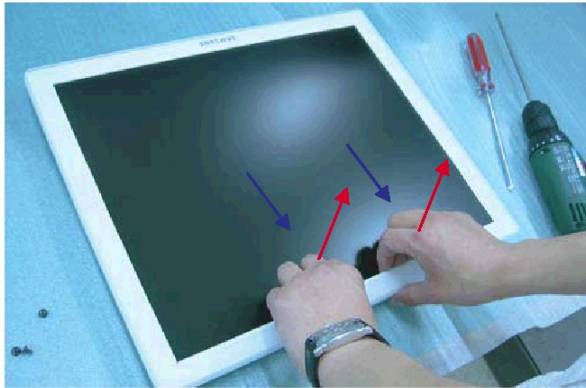
11-1拆卸

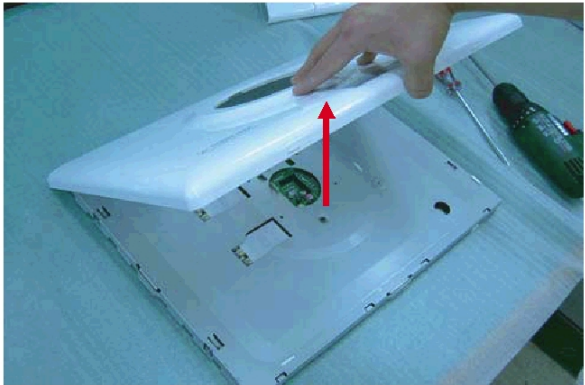
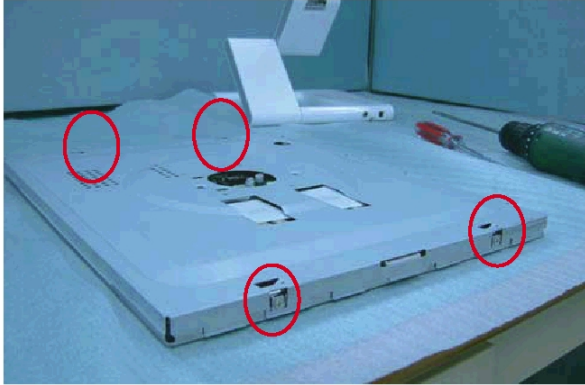
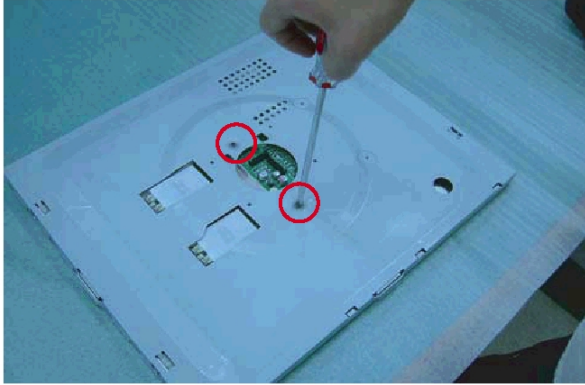
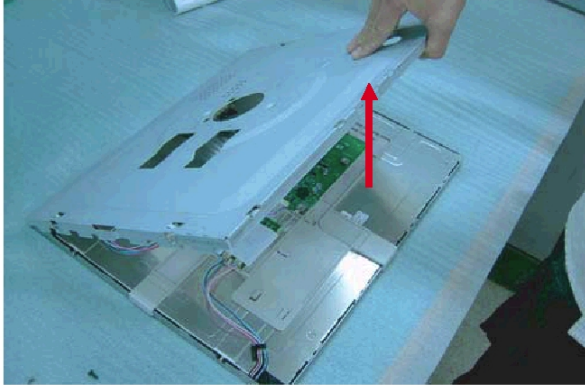
 **小心：** 1.在拆卸前，断开显示器电源

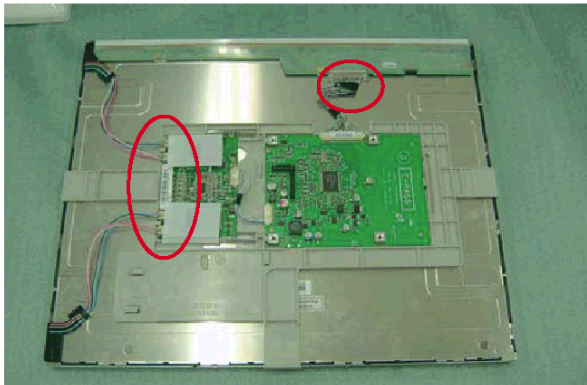

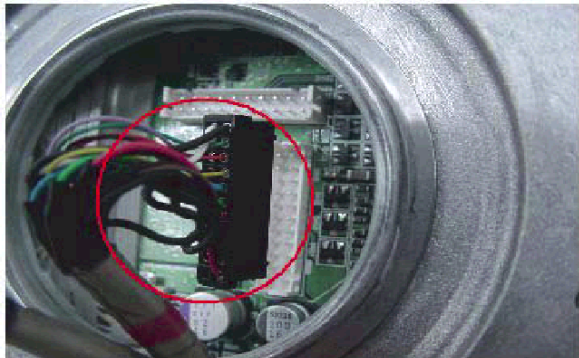
- 1. 在显示器下放置垫子，屏幕向下、正面触地、底座朝您放置显示器。必须保证没有什么东西会损坏屏幕。
- 2. 断开信号接线和电源适配器的直流插口。

说明	图片说明
1. 拆除螺钉。	
2. 打开副后盖。	


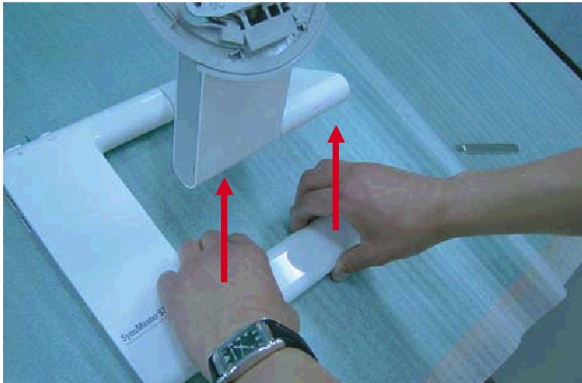
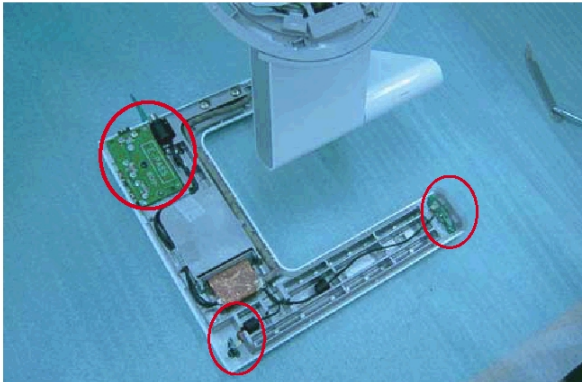
11 拆卸和重新组装

说明	图片说明
3. 拆除 4 个螺钉。	
4. 断开底座接线。	
5. 提起底座。	
6. 拆除前盖。	

说明	图片说明
7. 提起后盖。	
8. 从护板拆除 4 个螺钉。	
9. 从盖护板拆除 2 个螺钉。	
10. 提起盖护板。	

说明	图片说明
<p>11. 断开灯接线和 LVDS 接线。</p>	
<p>12. 变换器+主印刷电路板组件。</p>	
<p>当断开底座接线时，请抓住极片不要抓电线。</p> <p>抓住电线断开，可能会损坏底座接线。</p>	

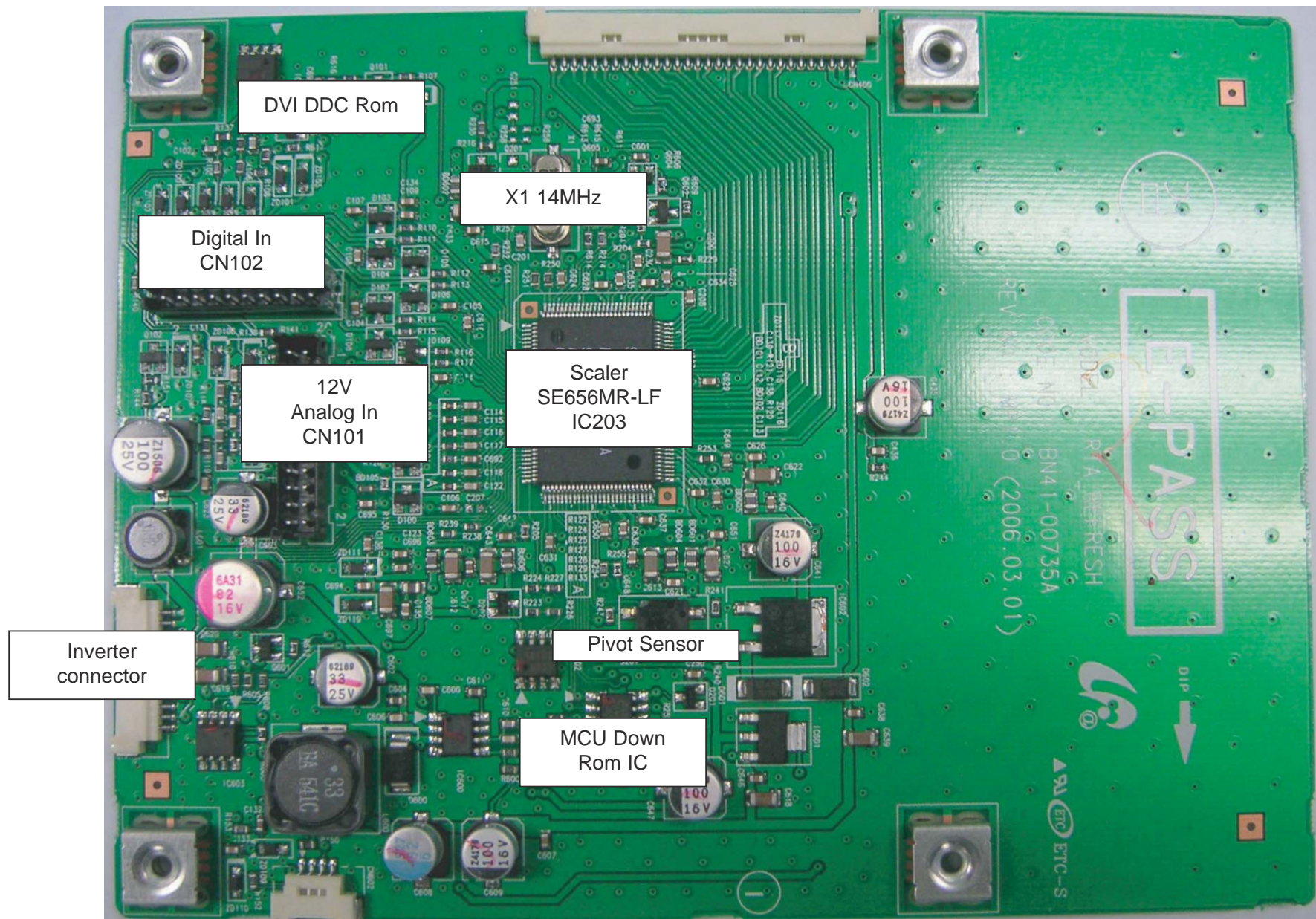
11-2 拆卸底座

说明	图片说明
1. 拆除侧盖。	
2. 提起上底座盖。	
3. 组装 USB 板 +组装菜单板 +组装电源板	

11-3 重新组装

重新组装步骤与拆卸步骤相反。

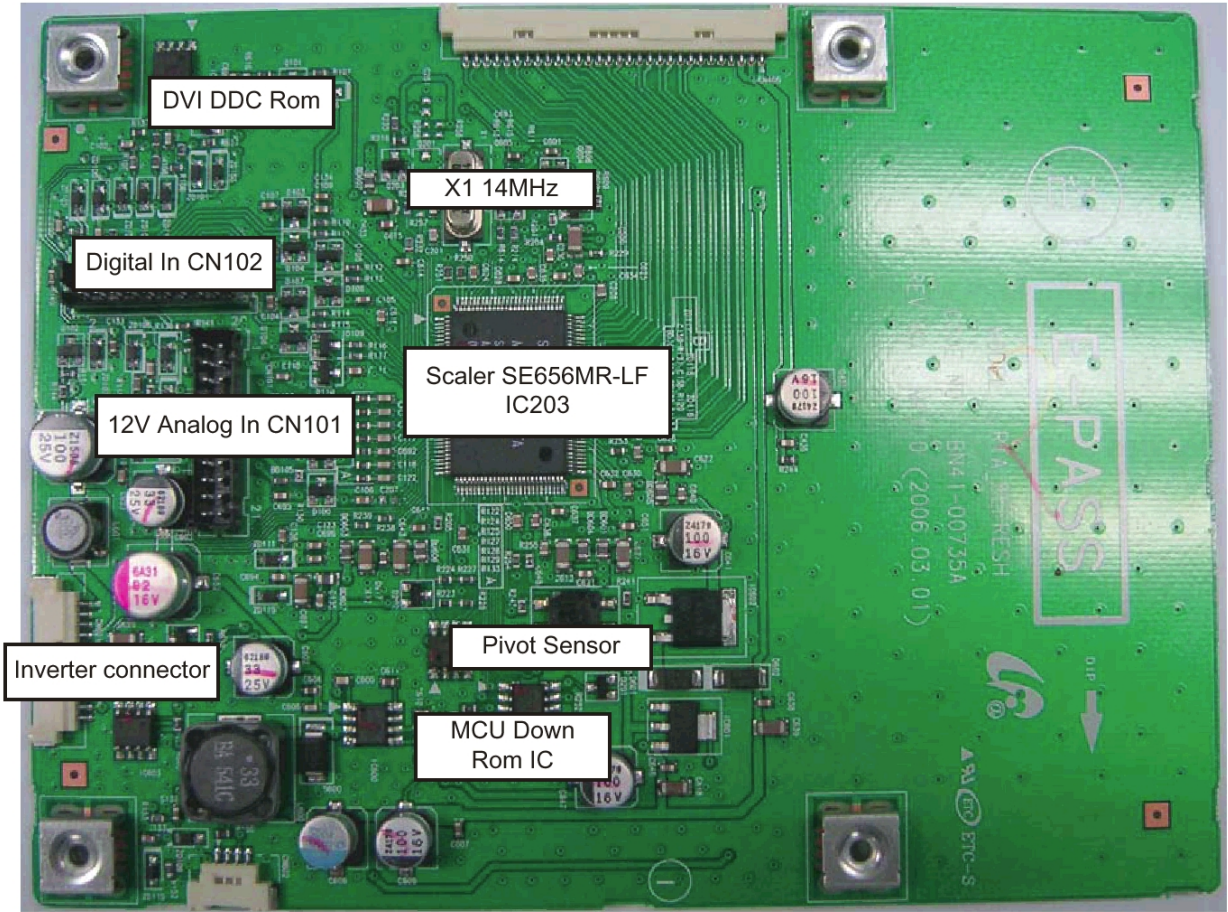
12 PCB Diagram



Memo

13 电路说明

13-1 块说明



序号	块	说明	名称
1	换算器	将 ADC、MCU、RTA、TMSD、换算器等集成到一个芯片上。	SE656MR-LF
2	旋转传感器	因为显示器有旋转用传感器集成电路。 1) 如果本显示器旋转 90 度和 0 度。 2) MCU 可通过传感器集成电路检测当前状态，并且 OSD 旋转。 3) Magic tune 3.6 和 Pivot 软件可自动将屏幕改为旋转度数。	SPSF100100
3	12V 和模拟输入	12V 和模拟来源输入。	
4	DVI 输入	DVI 输入连接器。	

13-2 块操作

序号	功能	块	说明	故障现象
1	快速响应时间	RTA 芯片	使用 RTA（响应时间加速器）芯片，本显示器在灰至灰模式下可以支持快速响应时间（6ms）。	显示异常，无图像
2	12V 和模拟输入	模拟输入连接器	12V 和模拟来源输入。	未通电/模拟无图像
3	DVI 输入	DVI 输入连接器	DVI 输入连接器。	DVI 无图像
4	清晰度	换算器	支持清晰度控制，提高视频卡质量。	提高清晰度和图像质量。
5	自动旋转	旋 转 传 感 器 /MCU/Magic tuen 3.6/Pivot 软件	因为显示器有旋转用传感器集成电路。 1) 如果本显示器旋转 90 度和 0 度。 2) MCU 可通过传感器集成电路检测当前状态，并且 OSD 旋转。 3) Magic tune 3.6 和 Pivot 软件可自动将屏幕改为旋转度数。	必须在计算机上安装 Magic tune 3.6 和 Pivot 软件。

14 Reference Information

14-1 Technical Terms

-TFT-LCD

(Thin film Transistor Liquid Crystal Display)

ADC(Analog to Digital Converter)

This is a circuit that converts from analog signal to digital signals.

-PLL(Phase Locked Loop)

During progressing ADC, Device makes clock synchronizing HSYNC with Video clock

-Inverter

Device that supply Power to LCD panel lamp. this device generate about 1,500~2,000V.

AC Adapter

Device that converts AC(90V~240V) to DC(+12V or 14V)

SMPS(Switching Mode Power Supply)

Switching Mode Power supply. This design technology is used to step up/down the input power by switching on/off

-FRC(Frame Rate Controller)

Technology that change image frame quantity displayed on screen for one second.

Actually TFT-LCD panel require 60 pcs of frame for one second.

so, this technology is needed to convert input image to 60 pcs regardless input frame quantity.

-Image Scaler

Technology that convert various input resolution to other resolution.(ex. 640* 480 to 1024*768)

-Auto Configuration(Auto adjustment)

This is an algorithm to adjust monitor to optimum condition by pushing one key.

-OSD(On Screen Display)

On screen display. customer can control the screen easily with this.

-Image Lock

This means "Fineness adjustment " in LCD Monitor, the features are "Fine" and "Coarse"

-FINE

"Fine" adjustment is used to adjust visibility by control phase difference.

-COARSE

This is a adjustment by tuning with Video colck and PLL clock.

-DVI (Digital Visual Interface)

This provides a high speed digital connection for visual data types that is display technology independent. this interface is primarily focused at providing a connection between a computer and its display device.

-L.V.D.S.(Low Voltage Differential Signaling)

a kind of transmission method for Digital.It can be used from Main PBA to Panel.

-DVI (Digital Visual Interface)

This provides a high speed digital connection for visual data types that is display technology independent. this interface is primarily focused at providing a connection between a computer and its display device.

-T.M.D.S

(Transition minimized Differential Signaling)

a kind of transmission method for Digital. It can be used from Video card to Main PBA.

-DDC(Display data channel)

It is a communication method between Host Computer and related equipment. It can make it Plug and Play between PC and Monitor.

-EDID

Extended Display Identification Data PC can recognize the monitor information as Product data, Product name, Display mode, Serial number and Signal source, etc through DDC Line communicating with PC and Monitor.

Example: If the resolution is 1280 x 1024, this means the screen is composed of 1280 horizontal dots (horizontal resolution) and 1024 vertical lines (vertical resolution).

-Dot Pitch

The image on a monitor is composed of red, green and blue dots. The closer the dots, the higher the resolution. The distance between two dots of the same color is called the 'Dot Pitch'. Unit: mm

-Vertical Frequency

The screen must be redrawn several times per second in order to create and display an image for the user. The frequency of this repetition per second is called Vertical Frequency or Refresh Rate.

Unit: Hz

Example: If the same light repeats itself 60 times per second, this is regarded as 60 Hz.

-Horizontal Frequency

The time to scan one line connecting the right edge to the left edge of the screen horizontally is called Horizontal Cycle. The inverse number of the Horizontal Cycle is called Horizontal Frequency.

Unit: kHz

-Interlace and Non-Interlace Methods

Showing the horizontal lines of the screen from the top to the bottom in order is called the Non-Interlace method while showing odd lines and then even lines in turn is called the Interlace method. The Non-Interlace method is used for the majority of monitors to ensure a clear image. The Interlace method is the same as that used in TVs.

-Plug & Play

This is a function that provides the best quality screen for the user by allowing the computer and the monitor to exchange information automatically. This monitor follows the international standard VESA DDC for the Plug & Play function.

-Resolution

The number of horizontal and vertical dots used to compose the screen image is called 'resolution'. This number shows the accuracy of the display. High resolution is good for performing multiple tasks as more image information can be shown on the screen.

14-2 Connecting Your Monitor



1. Connect the DC 14V adapter for your monitor to the power port on the back of the monitor. Plug the power cord for the monitor into a nearby outlet.

2-1. Using the D-Sub (analog) connector on the video card.
Connect the 'DVI-A to D-Sub' Cable to the DVI port on the back of your monitor.

DVI-A/D-Sub Cable



2-2. Connected to a Macintosh.

Connect the monitor to the Macintosh computer using the DVI-I connection cable.

2-3. In the case of an old model Macintosh, you need to connect the monitor using a special Mac adapter Option).

3. Turn on your computer and monitor. If your monitor displays an image, installation is complete.

- If you properly connect your monitor using the DVI-I connector but get a blank screen, check to see if the monitor status is set to analog. Press power button to have the monitor double-check the input signal source.

14-3 Pin Assignments

Pin No. \ Sync Type	15-Pin D-Sub Signal Cable Connector		
	Separate	Composite	Sync-on-green
1	Red	Red	Red
2	Green	Green	Green + H/V Sync.
3	Blue	Blue	Blue
4	GND	GND	GND
5	DDC Return (GND)	DDC Return (GND)	DDC Return (GND)
6	GND-R	GND-R	GND-R
7	GND-G	GND-G	GND-G
8	GND-B	GND-B	GND-B
9	DDC Power Input (+5V)	DDC Power Input (+5V)	DDC Power Input (+5V)
10	Self Raster	Self Raster	Self Raster
11	GND	GND	GND
12	Bi-Dr Data (SDA)	Bi-Dr Data (SDA)	Bi-Dr Data (SDA)
13	H-Sync.	H/V-Sync.	Not Used
14	V-Sync.	Not Used	Not Used
15	DDC Clock (SCL)	DDC Clock (SCL)	DDC Clock (SCL)

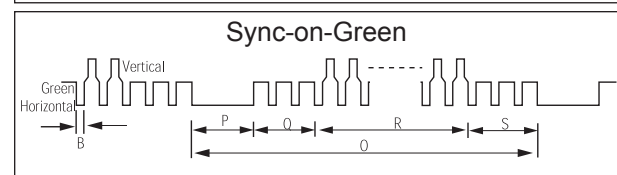
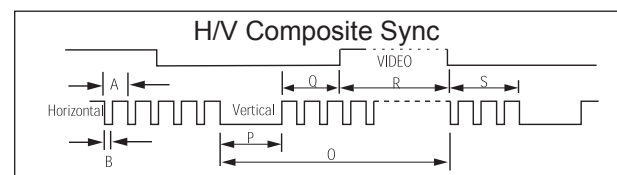
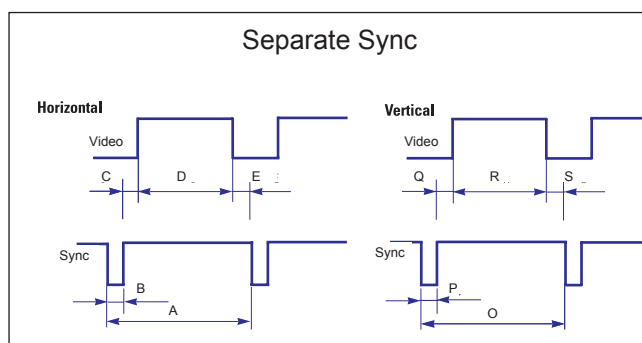
Pin No. \ Sync Type	24P DVI-D		
1	Rx2-	13	No Connection
2	Rx2+	14	+5V_M
3	GND	15	Self Raster
4	No Connection	16	+5V_M
5	No Connection	17	Rx0-
6	DDC Clock (SCL)	18	Rx0+
7	DDC Data (SDA)	19	NC
8	NC	20	No Connection
9	Rx1-	21	No Connection
10	Rx1+	22	NC
11	NC	23	RxC+
12	No Connection	24	RxC-

14-4 Timing Chart

This section of the service manual describes the timing that the computer industry recognizes as standard for computer-generated video signals.

Table 2-1 Timing Chart

Mode Timing	IBM		VESA						
	VGA2/ 70 Hz 720 x 400	VGA3/ 60 Hz 640 x 480	640/75 Hz 640x480	800/60 Hz 800x600	800/75 Hz 800x600	1024/60 Hz 1024x768	1024/75 Hz 1024x768	1280/60 Hz 1280x1024	1280/75 Hz 1280x1024
fH (kHz)	31.469	31.469	37.500	37.879	46.875	48.363	60.023	63.981	79.975
A μ sec	31.777	31.778	26.667	26.400	21.333	20.677	16.660	11.852	12.504
B μ sec	3.813	3.813	2.032	3.200	1.616	2.092	1.219	1.037	1.067
C μ sec	1.589	1.589	3.810	2.200	3.232	2.462	2.235	2.296	1.837
D μ sec	26.058	26.058	20.317	20.000	16.162	15.754	13.003	9.259	9.481
E μ sec	0.318	0.318	0.508	0.000	0.323	0.369	0.203	0.000	0.119
fV (Hz)	70.087	59.940	75.000	60.317	75.000	60.004	75.029	60.020	75.025
O msec	14.268	16.683	13.333	16.579	13.333	16.666	13.328	16.005	13.329
P msec	0.064	0.064	0.080	0.106	0.064	0.124	0.050	0.047	0.038
Q msec	0.858	0.794	0.427	0.607	0.448	0.600	0.466	0.594	0.475
R msec	13.155	15.761	12.800	15.840	12.800	15.880	12.795	15.630	12.804
S msec	0.191	0.064	0.027	0.0261	0.021	0.062	0.017	0.016	0.013
Clock Freq. (MHz)	28.322	26.175	31.500	40.000	49.500	75.000	78.750	108.000	135.000
Polarity H.Sync	Negative	Negative	Negative	Positive	Positive	Negative	Positive	Positive	Positive
V.Sync	Positive	Negative	Negative	Positive	Positive	Negative	Positive	Positive	Positive
Remark	Separate	Separate	Separate	Separate	Separate	Separate	Separate	Separate	Separate



A : Line time total

B : Horizontal sync width

C : Back porch

D : Active time

E : Front porch

O : Frame time total

P : Vertical sync width

Q : Back porch

R : Active time

S : Front porch

14-5 Preset Timing Modes

-If the signal transferred from the computer is the same as the following Preset Timing Modes, the screen will be adjusted automatically. However, if the signal differs, the screen may go blank while the power LED is on. Refer to the video card manual and adjust the screen as follows.

Table 1. Preset Timing

Display Mode	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Pixel Clock (MHz)	Sync Polarity (H/V)
IBM, 640 x 350	31.469	70.086	25.175	+/-
IBM, 640 x 480	31.469	59.940	25.175	-/-
IBM, 720 x 400	31.469	70.087	28.322	-/+
MAC, 640 x 480	35.000	66.667	30.240	-/-
MAC, 832 x 624	49.726	74.551	57.284	-/-
MAC, 1152 x 870	68.681	75.062	100.00	-/-
VESA, 640 x 480	37.500	75.000	31.500	-/-
VESA, 640 x 480	37.861	72.809	31.500	-/-
VESA, 800 x 600	35.156	56.250	36.000	+, -/+, -
VESA, 800 x 600	37.879	60.317	40.000	+/+
VESA, 800 x 600	46.875	75.000	49.500	+/+
VESA, 800 x 600	48.077	72.188	50.000	+/+
VESA, 1024 x 768	48.363	60.004	65.000	-/-
VESA, 1024 x 768	56.476	70.069	75.000	-/-
VESA, 1024 x 768	60.023	75.029	78.750	+/+
VESA, 1152 x 864	67.500	75.000	108.00	+/+
VESA, 1280 x 960	60.000	60.000	108.00	+/+
VESA, 1280 x 1024	63.981	60.020	108.00	+/+
VESA, 1280 x 1024	79.976	75.025	135.00	+/+

Horizontal Frequency

The time to scan one line connecting the right edge to the left edge of the screen horizontally is called Horizontal Cycle and the inverse number of the Horizontal Cycle is called Horizontal Frequency. Unit: kHz

Vertical Frequency

Like a fluorescent lamp, the screen has to repeat the same image many times per second to display an image to the user. The frequency of this repetition is called Vertical Frequency or Refresh Rate. Unit: Hz

14-6 Panel Description

Maker	VENDOR P/N	PANEL_CODE	PANEL_ABB	STICKER_CODE	Remarks
SEC	LT140X1-002	BN07-00004A	SA	BN68-00239H	-
SEC	LT150XS-L01	BN07-00009A	SB		-
SEC	LT150XS-L01-B	BN07-00022A	SC		-
SEC	LTM150XS-L02	BN07-00005A	SD		-
SEC	LT181E2-132	BN07-00001A	SE		-
SEC	LT150XS-T01	BN07-00010A	SF		-
SEC	LTM181E3-132	BN07-00019A	SG		-
SEC	LT170E2-131	BN07-10001D	SH		-
SEC	LT181E2-131	BN07-10001E	SJ		-
SEC	LTM170E4-L01	BN07-00018A	SK		-
SEC	LTM240W1-L01	BN07-00015A	SL		-
SEC	LTM213U3-L01	BN07-00016A	SM		-
SEC	LTM150XH-L01	BN07-00026A	SN		-
SEC	LTM150XH-L03	BN07-00027A	SP		-
SEC	LTM150XS-L01	BN07-00032A	SQ		DELL(ZPD)
SEC	LTM181E4-L01	BN07-00034A	SR		PVA
SEC	LTM170EH-L01	BN07-00036A	SS		TN
SEC	LTM170E5-L01	BN07-00037A	SU		PVA
SEC	LTM150XH-L11	BN07-00041A	SV		-
SEC	LTM213U4-L01	BN07-00039A	SW		PVA
SEC	LTM150XH-L01(ZPD)	BN07-00045A	SX		ZPD
SEC	LTM150XH-L04	BN07-00046A	SY		New panel with high brightness
SEC	LTM170W1-L01	BN07-00047A	SZ		Panel for TV
SEC	LTM150XH-L06	BN07-00053A	EA		Panel for TV/ High luminance for 450cd_ SONY&EOS Team Panel for TV
SEC	LTM153W1-L01	BN07-00054A	EB		Use NIKE MODEL
SEC	LTM170EH-L05	BN07-00055A	EC		Panel EOS proj. for high brightness of 17" EH-L05
SEC	LTM170E5-L03	BN07-00056A	ED		Dell 1702FP pro. E4. EH mechanicalCompatible
SEC	LTM190E1-L01	BN07-00057A	EE		DELL 1900 FP
SEC	LTM181E5-L01	BN07-00061A	EF		18" narrow bezel GH18PS
SEC	LTM150XP-L01	BN07-00065A	EG		AMLCD PVA PANEL
SEC	LTM240W1-L02	BN07-00062A	EH		Panel for 15" Wide TV
SEC	LTM170EU-L01	BN07-00071A	EJ		Slim design, TN
SEC	LTM170E5-L04	BN07-00072A	EK		E5-L04 6 bits FRC... for IBM
SEC	LTA220W1-L01	BN07-00074A	EL		Panel for 22" TV
SEC	LTM170E6-L02	BN07-00075A	EM		AMLCD Narrow & slim design 17" PVAmode
SEC	LTM170W1-L01	BN07-00082A	EN		LTM170W1-L01 ZPD panel
SEC	LTM170EH-L01	BN07-00080A	EP		LTM170EH-L01 ZPD panel
SEC	LTM170E5-L01	BN07-00081A	EQ		LTM170E5-L01 ZPD panel
SEC	LTM170EH-L05	BN07-00083A	ER		LTM170EH-L05 ZPD panel
SEC	LTM170E5-L03	BN07-00084A	ES		LTM170E5-L03 ZPD panel
SEC	LTM170EU-L01	BN07-00085A	ET		LTM170EU-L01 ZPD panel
SEC	LTM170E5-L04	BN07-00086A	EU		LTM170E5-L04 ZPD panel
SEC	LTM170E6-L02	BN07-00087A	EV		LTM170E6-L02 ZPD panel
SEC	LTM150XH-L06	BN07-00091A	EW		Color coordinates change for LCD TV
SEC	LTM153W1-L01	BN07-00092A	EX		AMLCD WIDE 15",9/10
SEC	LTM170W1-L01	BN07-00100A	EY		Color Coordinates change code management
SEC	LTM170EH-L05	BN07-00097A	EZ		LTM170E5-L05 Color Coordinates Change Panel Code
SEC	LTA400W1-L01	BN07-00109A	S1		PANEL of AMLCD 40" TV
SEC	LTM153W1-L01	BN07-00110A	S2		Color coordinates change 0.280/0.290, 10000k & ZPD Panel
SEC	LTM150XH-L06	BN07-00111A	S3		Color coordinates change 0.280/0.290, 10000k & ZPD Panel
SEC	LTM170W1-L01	BN07-00112A	S4		Color coordinates change 0.280/0.290, 10000k & ZPD Panel
SEC	LTM170EH-L05	BN07-00113A	S5		Color coordinates change 0.280/0.290, 10000k & ZPD Panel
SEC	LTM220W1-L01	BN07-00114A	S6		ZPD Panel for AMLCD 22" TV
SEC	LTM150XH-L06	BN07-00117A	S7		ZPD Panel code
SEC	LTM153W1-L01	BN07-00118A	S8		ZPD Panel code
SEC	LTM170WP-L01	BN07-00119A	S9		PVA Panel for NIKE
SEC	LTM213U4-L01	BN07-00039A	E1		21.3" NARROW
SEC	LTA260W1-L01	BN07-00121A	E2		VENUS
SEC	LTA220W1-L01	BN07-00074B	E3		Panel B-level panel code for 22" TV Panel

14 Reference Information

Maker	VENDOR P/N	PANEL_CODE	PANEL_ABB	STICKER_CODE	Remarks
SEC	LTA320W1-L01	BN07-00108A	E4		Panel for AMLCD 32" TV
SEC	LTM213U4-L01	BN07-00124A	E5		NARROW BEZEL 21" PANEL
SEC	LTM170E6-L04	BN07-00129A	E6		HIGHLAND 17" LOW PANEL (Panel only for TCO03)
SEC	LTM190E1-L01	BN07-00088A	E7		LTM190E1-L01 ZPD panel
SEC	M150X4-L06	BN07-00137A	E8		15" Narrow & Slim panel
SEC	LTA170V1	BN07-00139A	E9		17" Panel for Muse 4:3 VGA TV
SEC	LTM190E1-L02	BN07-00128A	E10		New Panel from AMLCDI, Specification : 6bit Driver IC
SEC	LTM170EX-L01	BN07-00143A	E11		Development new Panel from AMLCD
SEC	LTM170E8-L01	BN07-00144A	E12		Development new Panel from AMLCD
SEC	LTM170E6-L04	BN07-00129B	E13		ZPD panel for AMLCD (Panel only for TCO03)
SEC	LTA320W1-L02	BN07-00108B	E14		Creat B-level Panel code for AMLCD 32" TV
SEC	LTM190E1-L03	BN07-00151A	E15		Development new 19" Panel form AMLCD (Panel only for TCO03)
SEC	LTM240W1-L03	BN07-00134A	E16		AMLCD 24" panel development
SEC	LTM190E1-L02	BN07-00128B	E17		New Panel from AMLCD, Specification : 6bit Driver IC(ZPD)
SEC	LTM190E4-L01	BN07-00145A	E18		AMLCD 24" new panel development
SEC	LTM170E8-L01	BN07-00158A	E19		ZPD code derivation
SEC	LTM170EX-L01	BN07-00159A	E20		ZPD code derivation
SEC	LTM190E1-L03	BN07-00151B	E21		Creat new panel code for AMLCD 19" (Panel only for TCO03)
SEC	LTA460H1-L01	BN07-00157A	E22		creat panel code for AMLCD 46" TV
SEC	LTM170EU-L11	BN07-00160A	E23		creat new panel code for AMLCD 17" (Panel only for TCO03)
SEC	LTM240W1-L03	BN07-00134B	E24		24" panel ZPD code derivation
SEC	LTM190E4-L01	BN07-00145B	E25		AMLCD 19" ZPD Panel code derivation
SEC	LTM240W1-L03	BN07-00134B	E26		24" panel ZPD code derivation
SEC	LTM150XO-L01	BN07-00164A	E27		AMLCD 15" XO-L01 new panel development
SEC	LTM150XO-L01	BN07-00164B	E28		AMLCD 15" XO-L01 ZPD code derivation
SEC	LTM170EU-L11	BN07-00160B	E29		AMLCD 17" NEW panel code derivation
SEC	LTA320W2-L01	BN07-00172A	SPZ		AMLCD 32" NEW panel
SEC	LTM213U4-L01	BN07-00124B	SPZ		21.3" Narrow PANEL ZPD Panel derivation
SEC	LTM170EU-L11	BN07-00189A	STH		AMLCD EU-L11 Pb free panel code derivition
SEC	LTM170EU-L11	BN07-00189B	STZ		AMLCD EU-L11 Pb free panel ZPD code derivation
SEC	LTM240W1-L04	BN07-00188A	SPH		24" A-DCC NEW panel
SEC	LTM240W1-L04	BN07-00188B	SPZ		24" A-DCC panel ZPD code derivation
SEC	LTM190EX-L01	BN07-00191A	STH		AMLCD 19" TN NEW Panel
SEC	LTM190EX-L02	BN07-00191B	STZ		AMLCD 19" TN NEW Panel ZPD
SEC	LTA230W1-L02	BN07-00184A	SPZ		AMLCD 23" 16:9 NEW Panel
SEC	LTA260W2-L01	BN07-00185A	SPZ		AMLCD 26" 16:9 NEW Panel
SEC	LTA400W2-L01	BN07-00186A	SPZ		AMLCD 40" 16:9 NEW Panel
SEC	LTM240M1-L01	BN07-00195A	SPH		24" high brightness panel
SEC	LTM150XO-L01	BN07-00197A	STH		AMLCD 15" XO-L01 Pb free panel code
SEC	LTM150XO-L01	BN07-00197B	STZ		AMLCD 15" XO-L01 Pb free panel ZPD code
SEC	LTM170EU-L21	BN07-00202A	STZ		AMLCD EU-L21 ZPD NEW code derivation
SEC	LTA460W2-L03	BN07-00187A	SPZ		BEETOVEN 46"ZPD NEW Panel
SEC	LTM240M1-L01	BN07-00195B	SPZ		24" high brightness panel ZPD code derivation
SEC	M170EX-L21	BN07-00206A	STZ		AMLCD LTM170EX-L21 ZPD NEW code derivation
SEC	LTA460H3-L01	BN07-00200A	SPZ		AMLCD 46" LED BLU panel
SEC	LTM170EU-L15	BN07-00214A	STZ		High brightness For AMLCD EU-L15 TV ZPD NEW code derivation
SEC	LTM170E8-L21	BN07-00218A	SPZ		AMLCD LTM170E8-L21 PVA ZPD NEW code derivation
SEC	LTM190EX-L21	BN07-00222A	STZ		DISPLAY LCD
SEC	LTM201U1-L01	BN07-00190B	SPZ		AMLCD 20.1" Normal panel ZPD code derivation
SEC	LTM190E4-L21	BN07-00223A	SPZ		HAYDN 17" PZD code PANELderivation
SEC	LTA570H1-L01	BN07-00196A	SPZ		AMLCD 57" NEW Panel
SEC	LTM150XO-L21	BN07-00229A	STZ		AMLCD 15" XO-L21 8ms panel code
SEC	LTA260W2-L11	BN07-00239A	SPZ		AMLCD 26" 16:9 7Line NEW Panel
SEC	LTA400WS-LH1	BN07-00245A	SPZ		AMLCD 40" 16:9 SPVA 90% NEW Panel
SEC	LTM213U6-L01	BN07-00231A	SPZ		AMLCD 21.3" PVA NEW Panel Code
SEC	LTM213U6-L01	BN07-00231B	SPH		AMLCD 21.3" PVA Panel HPD Code
SEC	LTA320WS-LH2	BN07-00244A	SPZ		AMLCD 32" 16:9 SPVA 90% NEW Panel
SEC	LTA400WS-LH1	BN07-00245A	SPZ		AMLCD 40" 16:9 SPVA 90% NEW Panel
SEC	LTM190M2-L01	BN07-00227A	STZ		AMLCD 19" TN Wide NEW Panel Code

Maker	VENDOR P/N	PANEL_CODE	PANEL_ABB	STICKER_CODE	Remarks
SEC	LTM201UX-L01	BN07-00249A	STZ		AMLCD 20.1" TN NEW Panel Code
SEC	LTM240M1-L02-A05	BN07-00250A	SPZ		24" High brightness Slim panel ZPD code derivation
SEC	LTA320W3-L02	BN07-00219A	SPZ		AMLCD 32" NEW FFL Panel
SEC	LTA320W2-L11	BN07-00259A	SPZ		IP Board for AMLCD 32" 16:9 NEW Panel
SEC	LTA460WS-L02	BN07-00252A	SPZ		AMLCD 46" 16:9 SPVA 72% NEW Panel
SEC	LTA400WT-L01	BN07-00264A	SPZ		-
SEC	LTM240M2-L02	BN07-00267A	SPZ		All LCD Monitor 24" wide SPVA ZPD NEW code derivation
SEC	LTM210M2-L02	BN07-00230A	SPZ		-
SEC	LTA320WT-L11	BN07-00257A	SPZ		-
SEC	LTM190EX-L21-G	BN07-00274A	STZ		AMLCD 19" TN Glare NEW Panel Code
SEC	LTA320WT-L14	BN07-00247A	SPZ		-
SEC	LTM190M2-L01-D016	BN07-00280A	STZ		AMLCD 19" TN Wide change Gamma Panel Code
SEC	LTM190EX-L31	BN07-00279A	STZ		AMLCD 19" TN NEW Panel Code
SEC	LTM190M2-L02	BN07-00287A	STZ		AMLCD 19" TN Wide High brightness NEW Panel Code
SEC	LTA400WS-L01	BN07-00246A	SPZ		Display-LCD (Div) 07AH
SEC	LTA460WS-L01	BN07-00311A	SPZ		-
SEC	LTM190E4-L31	BN07-00316A	SPZ		-
SEC	LTM170EX-L31	BN07-00278A	STZ		AMLCD LTM170EX-L31 ZPD
SEC	LTA460HS-LH1	BN07-00291A	SPZ		AMLCD 46" 16:9 FHD / 60Hz / 8bit / SPVA 92%
SEC	LTA320WT-LF1	BN07-00323A	SPZ		-
SEC	LTA460WT-L02	BN07-00284A	SPZ		AMLCD 46" 16:9 HD / 60Hz / 8bit / SPVA 72% /
SEC	LTA400WH-LH1	BN07-00271A	SPZ		AMLCD 40" 16:9 SPVA 92% 10bit 120Hz
SEC	LTM240M1-L02-D015	BN07-00331A	SPZ		-
CPT	CLAA150XG09	BN07-00141A	PA		CPT 15" Monitor new panel development
CPT	CLAA170EA02	BN07-00148A	PB		17" CPT NEW development panel
CPT	CLAA170EA02	BN07-00148B	PC		17" CPT ZPD panel code derivation
CPT	CLAA150XG09	BN07-00141B	PTZ		CPT 15" panel ZPD code derivation (GOYA-PJT)
CPT	CLAA150XP01	BN07-00173A	PTH		CPT 15" PSWG code derivation
CPT	CLAA150XP01	BN07-00173B	PTZ		CPT 15" PSWG panel ZPD code derivation
CPT	CLAA170EA07	BN07-00174A	PTH		CPT 17" PSWG code derivation
CPT	CLAA170EA07	BN07-00174B	PTZ		CPT 17" PSWG type New Panel code
CPT	CLAA170EA07Q	BN07-00220A	PTZ		CPT 17" PSWG R/T 8msec code derivation
CPT	CLAA170EA07Q	BN07-00220B	PTH		CPT 17" PSWG R/T 8msec HPD code derivation
CPT	CLAA150XP01F	BN07-00236A	PTZ		CPT 15" PSWG panel ZPD & Lead free code derivation
CPT	CLAA201WA03Q	BN07-00269A	PTZ		CPT 20.1" wide TN ZPD New code derivation
CPT	CLAA320WA01	BN07-00276A	PMZ		CPT 32" 16:9 MVA 8bit 60Hz / Panel brown
CPT	CLAA170ES01	BN07-00261A	PTZ		CPT 17" Slim TN ZPD Type New code derivation
CPT	CLAA070VA02	BN07-00265A	PTZ		CPT Panel code derivation for Digital Album
TOSHIBA	LTM15C419(A)	BN07-00002A	TA		-
TOSHIBA	LTM15C423(B)	BN07-00006A	TB		-
TOSHIBA	LTM18C161	BN07-00008A	TC		-
TOSHIBA	LTM15C443	BN07-00031A	TD		-
TOSHIBA	LTM15C458	BN07-00043A	TE		-
TOSHIBA	LTM15C458S	BN07-00077A	TF		TSB 15" high brightness Panel
TOSHIBA	LTM15C458	BN07-00078A	TG		Toshiba ZPD panel
TOSHIBA	LTM15C458S	BN07-00099A	TH		TSB LTM15C458S (ZPD)
HANNSTAR	HSD150MX41A(A)	BN07-00020A	NA		TTL type
HANNSTAR	HSD150MX12	BN07-00030A	NB		TTL type
HANNSTAR	HSD170ME13	BN07-00180A	NTH		Hannstar 17" TN new panel development
HANNSTAR	HSD170ME13	BN07-00180B	NTZ		Hannstar 17" TN new panel development ZPD code derivation
HANNSTAR	HSD190ME12	BN07-00210A	NTZ		Hannstar 19" TN new panel development
HANNSTAR	HSD150MX17-A	BN07-00226A	NTZ		Hannstar 15" slim panel ZPD code derivation
HANNSTAR	HSD190ME12-A10	BN07-00256A	NTZ		Hannstar 19" TN PSWG 8ms new panel development
HANNSTAR	HSD190ME13-D11	BN07-00270A	NTZ		Hannstar 19" TN Slim 5ms new panel development
TORISAN	TM150XG-22L03(A)	BN07-00021A	RA		-

14 Reference Infomation

Maker	VENDOR P/N	PANEL_CODE	PANEL_ABB	STICKER_CODE	Remarks
TORISAN	TM150XG-26L06	BN07-00042A	RB		-
TORISAN	TM181SX-76N01	BN07-00048A	RC		-
TORISAN	TM150XG-26L06	BN07-00059A	RD		15" XGA TN MODE(ZPD)
TORISAN	TM290WX-71N31	BN07-00063A	RE		RS24NS (TORISAN 29" NEW PANEL)
TORISAN	TM396WX-71N31	BN07-00064A	RF		RS24NS (TORISAN 40" NEW PANEL)
TORISAN	TM150XG-26L09	BN07-00073A	RG		Panel for 15" TV
TORISAN	TM150XG-26L10	BN07-00089A	RH		L10(change except D/IC) ZPD
TORISAN	TM150XG-26L10	BN07-00090A	RJ		L10 NORMAL
TORISAN	TM190SX-70N01	BN07-00098A	RK		Torisan 19" Panel
TORISAN	TM181SX-76N01	BN07-00106A	RL		ZPD Panel code
TORISAN	TM190SX-70N01	BN07-00107A	RM		ZPD Panel code
TORISAN	TM290WX-71N31	BN07-00115A	RN		Color Coordinates change panel for TORISAN 29" TV
TORISAN	TM396WX-71N31	BN07-00116A	RP,Q		Color Coordinates change panel for TORISAN 40" TV
TORISAN	TM220WX-71N31	BN07-00125A	RR		Development TORISAN 22" TV PANEL (ZPD)
TORISAN	TM220WX-71N31	BN07-00127A	RS		Development TORISAN 22" TV PANEL (HPD)
TORISAN	TM396WX-71N32A	BN07-00150A	RT		120V inverter Exclusive panel
TORISAN	TM190SX-70N02	BN07-00154A	RMH		Torisan 6bit panel code Derivation
TORISAN	TM190SX-70N02	BN07-00154B	RMZ		Torisan 6bit panel code Derivation
TORISAN	TM150XG-A01	BN07-00162A	RTH		Torisan 15" Narrow & Slim panel development
TORISAN	TM150XG-A01	BN07-00162B	RTZ		Torisan 15" N&S panel ZPD code derivation
SHARP	LQ181E1DG11(A)	BN07-10001C	PA		-
SHARP	LQ150X1LW71	BN07-00067A	PB		SHARP 15" PVA PANEL
SHARP	LQ370T3LZ41	BN07-00216A	FAZ		Rome2
HITACHI	TX38D12VC0CAA(A)	BN07-00003A	HA		-
HITACHI	TX43DVCOCAB	BN07-00060A	HB		17" SXGA PVA MODE
HITACHI	TX43D15VC0CAB	BN07-00101A	HC		ZPD Panel
HITACHI	TX51D11VC0CAB	BN07-00122A	HD		20.1" NARROW
HITACHI	TX54D11VC0CAB	BN07-00123A	HE		21.3" NARROW
HITACHI	TX80D12VC0CAB	BN07-00169A	HIZ		Development new panel for Hitachi 32" TV (ZPD)
HITACHI	TX54D11VC0CAB	BN07-00123B	HIZ		Hitachi 21.3"ZPD panel
IBM	ITSX94S	BN07-00017A	IA		-
UNIPAC	UM170E0	BN07-00028A	UA		Loaded by cisdba
HYUNDAI	HT15X13	BN07-00035A	DA		-
HYUNDAI	HT17E11-200	BN07-00049A	DB		TN MODE
HYUNDAI	HT17E11-300	BN07-00093A	DC		HT17E11-300 ZPD panel
HYUNDAI	HT17E11-400	BN07-00094A	DD		HT17E11-400 normal panel
HYUNDAI	HT17E11-400	BN07-00095A	DE		HT17E11-400 ZPD panel code
HYUNDAI	HT17E12	BN07-00096A	DF		HT17E12 (Narrow & slim Design)
HYUNDAI	HT17E12	BN07-00105A	DG		ZPD Panel code
HYUNDAI	HT15X15-D00	BN07-00146A	DH		Development for Ares 15" Hydys TV
HYUNDAI	HT15X15-D01	BN07-00146B	DJ		Derivation panel HPD for Ares 15" Hydys TV
HYUNDAI	HT17E13-100	BN07-00167A	DTH		PINEHURST-2(IBM) PJT 17" HYDIS PANEL Derivation
HYUNDAI	HT17E13-100	BN07-00167B	DTZ		PINEHURST-2(IBM) Hydys 17" ZPD code Derivation
HYUNDAI	HT170EX1-100	BN07-00240A	DTZ		17" EX compatible Hydys Slim panel development
HYUNDAI	HT201V01-100	BN07-00263A	DTZ		Hydis 20.1" 4:3 VGA Mode TN NEW Panel
HYUNDAI	HT170EX1-101	BN07-00266A	DTZ		17" EX compatible Hydys Slim panel multi channel IC NEW Derivation
ACER	L170E3	BN07-00044A	AA		TN(ADT)
ACER	M170EN05	BN07-00076A	AB		AU 17" Panel (Narrow & slim design)
ACER	M170EN05	BN07-00102A	AC		ZPD Panel code
ACER	M190EN02	BN07-00170A	AMH		AU Monitor 19" new panel development (P19-1S)
ACER	M190EN02	BN07-00170B	AMZ		AU 19" ZPD code derivation (ZPD)
ACER	M170EN06	BN07-00171A	ATH		AU Monitor 17" New panel development
ACER	T260XW01	BN07-00163A	AMZ		AU 26" new panel development (NF26EO)

Maker	VENDOR P/N	PANEL_CODE	PANEL_ABB	STICKER_CODE	Remarks
ACER	A201SN01	BN07-00177A	ATZ		AU TV panel 20.1" TN SVGA new panel development
ACER	M170EN06	BN07-00171B	ATZ		AU Monitor 17" ZPD code Derivation
ACER	T315XW01	BN07-00194A	AMZ		New AU 32"
ACER	M170EG01	BN07-00192A	ATH		AU TN PSWG type New Panel code
ACER	M170EG01	BN07-00192B	ATZ		AU TN PSWG type New Panel ZPD Derivation code
ACER	M190EN04	BN07-00203A	ATH		AU Monitor 19" ZPD New code Derivation
ACER	T260XW02	BN07-00208A	AMZ		AUO 26"
ACER	M170EG01 V8	BN07-00221A	ATZ		AU TN PSWG type New Panel (8msec) ZPD Derivation code
ACER	T260XW02	BN07-00233A	AMZ		AUO 26" New Panel (Cosmetic spec down grade)
ACER	T315XW01	BN07-00234A	AMZ		AUO 32" New Grade (Cosmetic spec down grade)]
ACER	M190EN03	BN07-00224A	AMZ		AU Monitor 19" MVA New code Derivation
ACER	T315XW01	BN07-00237A	AMZ		New LCD TV VE project : delete DBEF sheet * Panel, model division ve
ACER	T315XW01	BN07-00238A	AMZ		New LCD TV VE project : delete DBEF sheet + 'A-' grade * Panel
ACER	M201UN02 V3	BN07-00168A	AMZ		-
ACER	M201UN02 V3	BN07-00168B	AMH		-
ACER	M190EN04 V7	BN07-00248A	ATZ		AU Monitor 19" TN Glare ZPD New code Derivation
ACER	A070VW01	BN07-00235A	ATZ		New Panel code Derivation for Digital Album
ACER	T315XW01	BN07-00253A	AMZ		LCD TV VE item model * Panel, Model division add version: T315XW01
ACER	T260XW02	BN07-00254A	AMZ		AUO 26" VE item apply model
ACER	M170EU01	BN07-00260A	ATZ		AUO 17" Slim TN ZPD Type New code Derivation
ACER	T370XW01	BN07-00255A	AMZ		for ROME 37" model development
ACER	T315XW02(V3),	BN07-00324A	AMZ		-
CHIMEI	M170E3-L01	BN07-00050A	CA		TN PANEL
CHIMEI	M150X3-L01	BN07-00051A	CB		COMPATIBLE
CHIMEI	M170E4-L01	BN07-00052A	CC		MVA PANEL
CHIMEI	M150X2-L01	BN07-00066A	CD		CHIMEI 15" PVA PANEL
CHIMEI	M150X3-L01	BN07-00079A	CE		Chimei ZPD panel
CHIMEI	M170E3-L01	BN07-00103A	CF		ZPD Panel code
CHIMEI	M170E4-L01	BN07-00104A	CG		ZPD Panel code
CHIMEI	V296W1-L01	BN07-00120A	CH		MVA
CHIMEI	M170E6-L02	BN07-00126A	CJ		HIGHLAND 17" LOW PANEL
CHIMEI	M190E2-L01	BN07-00131A	CK		GH19AS,BS CHIMEI PANEL
CHIMEI	M150X4-L06	BN07-00137A	CL		15" Narrow & Slim panel
CHIMEI	M170E6-L01	BN07-00133A	CM		2003-03-11 vendor change
CHIMEI	M170E6-L01	BN07-00133B	CN		ZPD derivation panel
CHIMEI	V201V1-T01	BN07-00135A	CP		CHIMEI 20.1" panel development
CHIMEI	M170E6-L02	BN07-00126B	CQ		HIGHLAND 17" LOW PANEL ZPD derivation panel
CHIMEI	M170E6-L05	BN07-00152A	CR		CMO 17" new panel development code
CHIMEI	M170E6-L05	BN07-00152B	CS		CMO 17" ZPD panel code derivation
CHIMEI	M150X4-L06	BN07-00137B	CT		Chimei 15" Narrow & Slim panel ZPD derivation
CHIMEI	M170E5-L05	BN07-00165A	CTH		CMO 17" new panel development code (GOYA2-PJT)
CHIMEI	M170E5-L05	BN07-00165B	CTZ		CMO 17" ZPD panel(GOYA2-PJT)
CHIMEI	V230W1-L02	BN07-00209A	CMZ		CMO 23" new development
CHIMEI	V320B1-L01	BN07-00207A	CMZ		CMO 32" new development
CHIMEI	V270W1-L01	BN07-00136A	CMZ		CHI MEI 27" panel development
CHIMEI	M190E5-L0A	BN07-00213A	CTZ		-
CHIMEI	M190E3-L0A	BN07-00212A	CMZ		CMO M190E3-L0A MVA Type New code derivation
CHIMEI	M170E7-L01	BN07-00232A	CTZ		CMO 17" Slim TN ZPD Type New code derivation
CHIMEI	M190A1-L01	BN07-00228A	CTZ		CMO 19" Wide TN ZPD Type New code derivation
CHIMEI	V201V1-T03	BN07-00275A	CTZ		CMO 20.1" (V201V1-T01) VE model
CHIMEI	M201P1-L01	BN07-00268A	CTZ		CMO 20.1" TN ZPD derivation
NEC	SVA150XG04TB	BN07-00225A	BTZ		SVA NEC 15" panel ZPD code
NEC	SVA170SX01TB	BN07-00272A	BTZ		SVA NEC 17" panel ZPD code Brown

Memo



液晶显示器

底板 LS19MBP

型号 971P

维修

手 册

液晶显示器



时尚特点

- 非对称平衡简易液晶显示器
- 折叠式三合页底座
- 响应时间短
- 优化键
- USB2.0

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LS19MBP 维修手册

2006 年 4 月第 1 版

中国印刷

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